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RESEARCH MEMORANDUM

EFFECTS OF LEADING-EDGE CHORD EXTENSIONS AND AN ALL-MOVABLE HORIZONTAL TAIL ON THE AERODYNAMIC CHARACTERISTICS OF A WING-BODY COMBINATION EMPLOYING A TRIANGULAR WING OF ASPECT RATIO 3 MOUNTED IN A HIGH POSITION AT SUBSONIC AND SUPERSONIC SPEEDS

By Benton E. Wetzel and Frank A. Pfyl

Ames Aeronautical Laboratory
Moffett Field, Calif.

NATIONAL ADVISORY COMMITTEE
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EFFECTS OF LEADING-EDGE CHORD EXTENSIONS AND AN ALL-
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SONIC AND SUPERSONIC SPEEDS

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SUMMARY

The results of an experimental investigation of the effect of
leading-edge chord extensions on the aerodynamic characteristics of a
wing-body-tail combination employing a 3-percent-thick triangular wing
of aspect ratio 3 in conjunction with an unswept, all-movable, horizontal
tail located below the wing-chord plane are presented. Lift, drag,
pitching moment, and hinge moment were measured at Mach numbers varying
from 0.6 to 0.9 and from 1.2 to 1.9, at a Reynolds number of 3.8 million.
The angle of attack was varied from -4° to $+17^O$ at constant horizontal-
tail deflections varying from $+4^O$ to -24°. Data are also presented for
the model without the horizontal tail.

The wing-body-tail combination was tested with 13.35-percent-chord,
leading-edge chord extensions on the outer 50 percent of the wing semi-
span in an effort to improve the undesirable static longitudinal stability
characteristics of the triangular wing at moderate-to-high lift coeffi-
cients at subsonic speeds. To improve, also, the subsonic lift and drag
characteristics, the chord extensions were drooped 3°.

Comparisons of the results obtained for the wing-body-tail combi-
nation having chord extensions with those for the combination without
chord extensions showed that the extensions improved the lift, drag,
and pitching-moment characteristics at moderate-to-high lift coefficients
at subsonic speeds and had small effect on those characteristics at
supersonic speeds. Static longitudinal instability, which occurred in
a range of moderate lift coefficients at Mach numbers of 0.6 and 0.8 for
the model without chord extensions, was either eliminated $(M = 0.8)$ or
delayed to higher lift coefficients $(M = 0.6)$. Improved variations of
lift with angle of attack at the aforementioned Mach numbers and

increased maximum lift-drag ratios at Mach numbers from 0.6 to 1.3 were
realized from the addition of chord extensions. Essentially no changes
in the hinge-moment characteristics were brought about at either subsonic
or supersonic speeds by the addition of chord extensions.

INTRODUCTION

As part of a program devoted to the investigation of components of
interceptor-type supersonic aircraft, a wing-body-tail combination
employing a 3-percent-thick triangular wing of aspect ratio 3 and an
all-movable horizontal tail was tested in the Ames 6- by 6-foot
supersonic wind tunnel. The wing was mounted high on the body, and the
tail was below the wing-chord plane. Previous tests of the wing-body
combination (ref. 1) showed losses in stability at moderate-to-high lift
coefficients at subsonic speeds. Tests of models similar to the present
one (ref. 2) have indicated that such variations in stability might be
avoided or minimized by locating the horizontal tail in certain positions
below the extended chord plane of the wing; however, when the tail was
added to the present model, the instability still persisted, and the
presence of the tail had little influence upon stability variations.
Therefore, the possibility of improving the stability by modifying the
wing so as to reduce the center-of-pressure movement was investigated.

This center-of-pressure movement has been shown by previous tests
of thin triangular wings to result from flow separation at the wing tips.
This flow separation is believed to be accompanied by separation vortices
(ref. 3) generated on the upper surface of the wing, which could have
an adverse effect on the stability. Research on sweptback wings (e.g.,
ref. 4) has shown that improvement of the characteristics of such wings
can be obtained through the use of leading-edge chord extensions, which
serve either to eliminate or to reduce separation or vortex-type flow
over the tip sections. An effort was made to improve the longitudinal
stability characteristics of the present model through the addition of
such devices. The chord extensions were drooped a small amount in order
to obtain improved subsonic drag characteristics, such as were reported
in reference 4.

The present paper is devoted primarily to the comparison of the lift,
drag, and pitching-moment characteristics of the wing-body-tail combi-
nation with and without the leading-edge chord extensions and to the
presentation of the control-surface characteristics of the combination
with chord extensions.

SYMBOLS

b wing span, in.

C_D drag coefficient, $\dfrac{drag}{qS}$

C_h hinge-moment coefficient, $\dfrac{hinge\ moment}{qS_t\bar{c}_t}$, measured about an axis at 30 percent of the chord of the horizontal tail

C_L lift coefficient, $\dfrac{lift}{qS}$

C_m pitching-moment coefficient, $\dfrac{pitching\ moment}{qS\bar{c}}$, referred to a horizontal axis through the point on the body axis corresponding to 35-percent mean aerodynamic chord of the wing

c local wing chord of the wing without chord extensions, in.

c_t local chord of the horizontal tail, in.

$\bar{c}$ mean aerodynamic chord of the wing, $\dfrac{\int_0^{b/2} c^2 dy}{\int_0^{b/2} c\ dy}$, in.

$\bar{c}_t$ mean aerodynamic chord of horizontal tail, in.

$\left(\dfrac{L}{D}\right)_{max}$ maximum lift-drag ratio

M free-stream Mach number

q free-stream dynamic pressure, lb/sq in.

R Reynolds number based on the mean aerodynamic chord of the wing

S wing area, formed by extending the leading and trailing edges to the plane of symmetry, sq in.
(The additional area provided by the leading-edge chord extensions has not been included.)

S_t area of horizontal tail, formed by extending the leading and trailing edges to the plane of symmetry, sq in.

y   spanwise distance from plane of symmetry, in.

α   angle of attack of body axis, deg

δ   angle of horizontal-tail deflection, positive for trailing edge
            down, deg

δ_n nominal (no load) horizontal-tail deflection, deg

APPARATUS AND MODEL

The experimental investigation was conducted in the Ames 6- by
6-foot supersonic wind tunnel, which is a closed-section, variable-
pressure-type tunnel with a Mach number range from 0.6 to 0.9 and from 1.2
to 1.9. A complete description of this facility has been published in
reference 5. In this wind tunnel, models are sting-mounted, and over-all
forces are measured with an internal electrical strain-gage balance.
The model was also equipped with an electrical strain gage which measured
the hinge moments on the horizontal tail.

The model consisted of a triangular wing, an all-movable horizontal
tail, two vertical fins, and a body. The wing was mounted in a high
position on the body, had an aspect ratio of 3, and was composed of NACA
0003-63 airfoil sections in streamwise planes. During a portion of the
investigation, the wing was equipped with 13.35-percent-chord, leading-
edge chord extensions over the outer 50-percent semispan of the wing,
as shown in figure 1. The extensions had the same ordinates as the
corresponding wing airfoil sections, with smooth fairings providing the
transitions between the extensions and the wing. The chord extensions
were drooped 3° with respect to the chord line.

The horizontal tail, which was mounted in a midposition on the body,
was pivoted at the 30-percent-chord point and had a taper ratio of 0.4
and an aspect ratio of 5. The airfoil section in a streamwise plane was
biconvex, with a maximum thickness-chord ratio of 3 percent at 30-percent
chord. The tail was supported at the tips by the two vertical fins
rigidly attached to the wing at the 50-percent-semispan station. These
fins were of aspect ratio 2.08 and had a 3-percent-thick biconvex section
in a streamwise plane. The wing and tail surfaces were of solid steel
construction.

The body was the same as that described in reference 1 for use in
conjunction with the wings positioned off the body axis. It had a
fineness ratio of 9.86. A photograph of the complete model is shown in
figure 2.

TEST AND PROCEDURE

Range of Test Variables

Lift, drag, pitching-moment, and hinge-moment characteristics of the model were investigated for a range of Mach numbers varying from 0.6 to 0.9 and from 1.2 to 1.9 at nominal angles of attack varying from -4° to a maximum of +17°. The model with horizontal tail installed was tested at horizontal-tail deflections varying from +4° to -24°, generally in 4° increments. The data were obtained at a Reynolds number of 3.8 million, based on the wing mean aerodynamic chord.

Reduction of Data

The test data have been reduced to standard NACA coefficient form. The pitching moments were calculated about a horizontal axis through the point on the body axis corresponding to 35 percent of the mean aerodynamic chord. Factors which affect the accuracy of these data are discussed in the following paragraphs.

Tunnel-wall interference.- Corrections to the subsonic results for the induced effects of the wind-tunnel walls resulting from lift on the model were made according to the methods of reference 6. The numerical values of these corrections, which were added to the uncorrected data, are:

$$\Delta\alpha = 0.5517 \; C_L$$

$$\Delta C_D = 0.0096 \; C_L{}^2$$

The correction to the pitching-moment coefficient was negligible.

Constriction of the flow at subsonic speeds was taken into account in the manner outlined in reference 7. At a Mach number of 0.9, the correction amounted to a 2-percent increase in the Mach number over that determined from a calibration of the wind tunnel without a model in place.

For the tests at supersonic speeds, the reflection from the tunnel wall of the Mach wave originating at the nose of the body crossed the horizontal tail only at a Mach number of 1.2. It is believed that the resulting interference effects were small, and no corrections were made for tunnel-wall effects.

Stream variations.- Tests at subsonic speeds in the 6- by 6-foot supersonic wind tunnel have indicated a small stream curvature and an

inclination in the pitch plane of the model. No correction for this
stream curvature has been made. A survey of the airstream at supersonic
speeds, reported in reference 5, has shown curvature and inclination
only in the yaw plane of the model. The effects of this curvature on
the measured aerodynamic characteristics of the model are not known but
are believed to be small, as they were shown to be in the case of
reference 8.

Surveys at both subsonic and supersonic speeds indicated that there
is a static-pressure variation of sufficient magnitude in the wind-tunnel
test section to affect the drag measurements. Corrections were added to
the measured drag coefficients, therefore, to account for the longitudinal
force resulting from the static-pressure variation. The maximum cor-
rections were +0.0007 at a Mach number of 0.9 and -0.0008 at a Mach
number of 1.3.

Support interference.- At subsonic speeds, the effects of support
interference on the aerodynamic characteristics of the model are not
known. It is believed that such effects consist primarily of a change
in the pressure at the base of the model. In an effort to correct at
least partially for this support interference, the base pressure was
measured and the drag data adjusted to correspond to a base pressure
equal to the static pressure of the free stream.

At supersonic speeds, the interference of the sting on a body of a
body-sting combination similar to that of the present model is shown by
reference 9 to be confined to a change in base pressure. The above-
mentioned adjustment of the drag for pressure at the base of the model,
therefore, was applied also to the data obtained at supersonic speeds.

Precision

The uncertainties involved in determining dynamic pressure and in
measuring forces with the strain-gage balance are described fully in
reference 10. The following table lists the maximum uncertainty
introduced into each corrected coefficient by the known uncertainties
in the measurements:

Quantity	Uncertainty
Lift coefficient	±0.002
Drag coefficient	±0.0010
Pitching-moment coefficient	±0.002
Hinge-moment coefficient	±0.005
Mach number	±0.01
Reynolds number	±0.03 × 10⁶
Angle of attack	±0.10°
Horizontal-tail deflection	±0.25°

RESULTS

The experimental results obtained during the investigation are presented in tables I and II for the complete range of test variables. The results for the wing-body and the wing-body-tail combinations without leading-edge chord extensions are presented in table I, those for the combinations with chord extensions in table II. For the purpose of analysis, a portion of these data is presented in graphical form.

The effect of the chord extensions on the variation of pitching-moment coefficient with lift coefficient for the model with the horizontal tail removed (but with the vertical fins attached to the wing) is shown in figure 3 for several subsonic and supersonic Mach numbers. The effect of the chord extensions on the pitching-moment, lift, and drag characteristics of the wing-body-tail combination for a nominal horizontal-tail deflection of zero is shown in figure 4 for the same Mach numbers.

In order to permit a more detailed evaluation of the effect of the chord extensions on the drag characteristics, the variation with Mach number of the drag coefficient at various lift coefficients and the variation with Mach number of the maximum lift-drag ratio are presented in figures 5 and 6, respectively.

The variation of the pitching-moment coefficient with horizontal-tail deflection is shown in figure 7. The variations of hinge-moment coefficient with horizontal-tail deflection and with angle of attack are presented in figures 8 and 9 for the model with chord extensions. A study of the data for the combinations with and without chord extensions showed essentially no difference in the control-effectiveness and hinge-moment characteristics as a result of adding the chord extensions. Therefore, only the results for the wing-body-tail combination with chord extensions are presented graphically. The data presented in these figures have been limited to Mach numbers of 0.6, 0.9, 1.3, and 1.9, since these were considered sufficient to show the variations through the Mach number range. Horizontal-tail deflections noted in figure 8 are nominal settings of the tail surfaces. The actual deflection angles, which changed slightly under aerodynamic load, can be obtained from table II.

DISCUSSION

In the section to follow, two features of the data will be discussed. First, the effects of the chord extensions on the basic aerodynamic characteristics of the wing-body and the wing-body-tail

combinations will be considered. A brief discussion of the control-
surface characteristics will follow.

Basic Characteristics

Pitching moment.- As was noted previously, some loss in stability
was shown to exist for the wing-body combination at moderate-to-high
lift coefficients at subsonic speeds during a previous investigation
(ref. 1). With the center of gravity at 35-percent mean aerodynamic
chord, the loss in stability was of such magnitude as to result in an
unstable variation of pitching-moment coefficient at Mach numbers of 0.6
and 0.8 for the model with the horizontal tail removed. (See fig. 3.)
With the horizontal tail added to the wing-body combination (fig. 4(a)),
the unstable variation at these subsonic speeds still existed. That the
longitudinal instability of the wing-body combination was due largely
to the instability of the wing-body combination can be determined from
a comparison of figures 3 and 4(a). As indicated in figure 3, addition
of the chord extensions improved the pitching-moment characteristics of
the wing-body combination, the instability being either eliminated
(M = 0.8) or delayed to a higher lift coefficient (M = 0.6). A similar
improvement occurred for the wing-body-tail combination (fig. 4(a)).
It should be noted that addition of the chord extensions had little
effect on the tail contribution to the stability. At supersonic speeds,
the chord extensions had only small effect on the pitching-moment
characteristics.

Lift.- The results for the wing-body-tail combination without chord
extensions (fig. 4(b)) showed a range of angle of attack near 8° at
Mach numbers of 0.6 and 0.8 in which the lift-curve slope was considerably
less than at other angles of attack. This decrease in lift-curve slope
appeared initially at about the same lift coefficient as the onset of
pitching-moment instability. With chord extensions installed, the lift
was maintained up to angles of attack of the order of 16°. The improve-
ment in the lift characteristics is believed to be due primarily to
the ability of the chord extensions to improve the flow over the wing
tips. At supersonic speeds, the chord extensions had little effect on
the lift characteristics. The slight increase in lift-curve slope shown
in figure 4(b) may have been due to the increased area provided by the
chord extensions.

Drag.- The drag results, presented in figures 4(c) and 5, indicate
that the addition of the chord extensions increased slightly the minimum
drag coefficient throughout the speed range investigated, although this
increase was of the same order of magnitude as the maximum uncertainty
of measurement. On the other hand, at lift coefficients greater than
0.2, the chord extensions reduced significantly the drag coefficients at
subsonic speeds and at a Mach number of 1.3. The reduction in drag at

these lift coefficients is believed to be due, primarily, to the small amount of camber which resulted from the drooping of the chord extensions. Drooping the leading edge tends to maintain high lifting pressures on that portion of the wing and to provide a component of force in the thrust direction. At Mach numbers greater than 1.5, the beneficial effect of the chord extensions on the drag no longer existed. At the higher lift coefficients, the apparent benefit of the chord extensions shown at these Mach numbers can be attributed to the increased area provided by the chord extensions.

The effect of the chord extensions on the maximum lift-drag ratio is shown in figure 6. At a Mach number of 0.6 a large increase in $(L/D)_{max}$ was realized, the improvement decreasing with increasing Mach number. In the supersonic speed range at Mach numbers of 1.5 and above, decreased lift-drag ratios were incurred with the chord extensions installed.

Control-Surface Characteristics

The following section is devoted to a discussion of the control-surface characteristics of the tail when used in conjunction with the wing-body combination with chord extensions. As pointed out in Results, a study of the data for the models with and without chord extensions showed essentially no difference in the control-effectiveness and hinge-moment characteristics. Thus, statements made in the following discussion also apply to the characteristics of the tail when used with the wing-body combination without chord extensions.

Control effectiveness.- Increasing control effectiveness with increasing Mach number was indicated for the subsonic speed range, as shown in figure 7. The variation of pitching-moment coefficient with horizontal-tail deflection was linear throughout only a moderate range of deflection angles in this speed range. However, for an airplane with its center of gravity at 35 percent of the mean aerodynamic chord, this moderate range is sufficient to provide static longitudinal balance throughout the range of lift coefficients investigated. A large decrease in the effectiveness of the horizontal tail occurred as the Mach number was increased from subsonic to supersonic speed. At supersonic speeds, the variation of pitching moment with angle of deflection was linear up to fairly large negative angles, the control effectiveness decreasing with increasing Mach number.

Hinge-moment coefficient.- As noted above, static longitudinal balance could be obtained at subsonic speeds with small deflection of the control surfaces. As shown in figures 8 and 9, the variations of hinge-moment coefficient with angle of attack and with tail deflection were small throughout the range of deflection angles required for balance.

As a result, the control forces required to deflect the horizontal-tail surfaces at subsonic speeds would be expected to be small. If, however, the center-of-gravity position were moved forward so that larger deflection angles were necessary for balance, larger variation of the hinge-moment coefficient with deflection angle would be encountered and larger control forces would be required.

At supersonic speeds, the magnitude of the variations of hinge-moment coefficient with angle of attack and with tail deflection increased greatly. As a result, large control forces would be expected to be required in this speed range. For example, if one considered the present wing-body-tail combination to be a 1/12-scale model of an airplane with a wing loading of 45 pounds per square foot, the control moment at a Mach number of 1.5 would be of the order of 30 times that at a Mach number of 0.6 for level flight at an altitude of 30,000 feet.

CONCLUSIONS

Experimental wind-tunnel results for a wing-body-tail combination employing a 3-percent-thick triangular wing of aspect ratio 3 in conjunction with an unswept, all-movable horizontal tail show that the aerodynamic characteristics were improved at moderate-to-high lift coefficients at subsonic speeds and only slightly changed at supersonic speeds, due to the addition of leading-edge chord extensions to the wing. The results of the wind-tunnel investigation are given below.

Pitching moment.- High-lift instability which occurred at subsonic speeds at Mach numbers of 0.6 and 0.8 was either eliminated (M = 0.8) or delayed to higher lift coefficients (M = 0.6) through the addition of chord extensions. Only a small effect at supersonic Mach numbers resulted from the addition of chord extensions.

Lift.- The addition of chord extensions eliminated undesirable lift characteristics at subsonic speeds and had little effect on the lift at supersonic speeds. Whereas the variation of lift coefficient with angle of attack for the wing-body-tail combination without chord extensions decreased rapidly at an angle of attack of about 8° at Mach numbers of 0.6 and 0.8, the variation for the combination with chord extensions had no inflection and lift was maintained up to angles of about 16°.

Drag.- The minimum drag was increased slightly throughout the Mach number range with the addition of chord extensions. At subsonic speeds, the drag due to lift was reduced, and the maximum lift-drag ratios were, in consequence, increased. The greatest increase in $(L/D)_{max}$ was obtained at M = 0.6, the improvement decreasing with Mach number. At supersonic Mach numbers of 1.5 and greater, no improvement in drag due to lift was realized through the addition of chord extensions. Maximum

lift-drag ratios obtained in this Mach number range were, as a result, decreased slightly.

Control effectiveness.- The control effectiveness of the horizontal tail was essentially unchanged by the addition of chord extensions. At subsonic speeds the effectiveness increased with increasing Mach number. A large decrease in effectiveness occurred as the Mach number was increased from subsonic to supersonic speed. At supersonic speeds the effectiveness decreased with increasing Mach number.

Hinge moment.- Essentially no changes in the hinge-moment characteristics of the horizontal tail occurred due to the addition of chord extensions. The variation of the hinge-moment coefficient with angle of attack and with horizontal-tail deflection was such that the control forces required to deflect the horizontal tail would be much larger at supersonic speeds than at subsonic speeds.

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    National Advisory Committee for Aeronautics
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TABLE I.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 AND AN ALL-MOVABLE HORIZONTAL TAIL; R=3.8 × 10⁶

$$R = 3.8 \times 10^6$$

(a) Characteristics for wing-body combination with horizontal tail
removed (vertical fins not removed)

M	α	C_L	C_D	C_m	M	α	C_L	C_D	C_m	M	α	C_L	C_D	C_m
0.60	-4.28	-0.260	0.0251	0.004	0.90	-4.38	-0.307	0.0290	0.016	1.50	8.32	0.415	0.0712	-0.062
	-2.14	-.133	.0126	.004		-2.18	-.154	.0130	.010		10.39	.510	.1024	-.077
	-.52	-.044	.0089	.003		-.53	-.047	.0084	.005		12.47	.601	.1401	-.092
	.52	.014	.0084	.002		.50	.022	.0080	.001					
	2.11	.104	.0111	.001		2.16	.130	.0117	-.009	1.70	-4.14	-.197	.0280	.029
	4.25	.231	.0218	0		4.35	.265	.0165	-.012		-2.07	-.103	.0176	.016
	6.39	.359	.0416	.002		6.55	.434	.0308	-.015		-.50	-.089	.0139	.006
	8.53	.474	.0710	.010		8.73	.564	.0684	-.016		.48	.017	.0137	-.002
	10.66	.582	.1096	.016		10.85	.660	.1294	-.017		2.06	.090	.0170	-.012
	12.77	.662	.1475	.030							4.14	.185	.0271	-.026
	14.86	.741	.1940	.033	1.30	-4.18	-.256	.0322	.040		6.21	.274	.0467	-.039
	16.97	.827	.2487	.034		-2.09	-.132	.0193	.021		8.28	.363	.0648	-.053
	18.02	.870	.2789	.034		-.50	-.062	.0242	.012		10.34	.447	.0926	-.067
						.49	.021	.0145	-.002		12.41	.529	.1260	-.079
0.80	-4.34	-.286	.0275	.009		2.08	.115	.0185	-.016		14.46	.580	.1581	-.087
	-2.17	-.146	.0130	.007		4.17	.240	.0307	-.036					
	-.53	-.045	.0087	.004		6.26	.364	.0511	-.054	1.90	-4.13	-.175	.0264	.023
	.53	.019	.0084	.002		8.35	.480	.0757	-.073		-2.06	-.091	.0174	.012
	2.14	.117	.0114	-.001		10.43	.586	.1161	-.087		-.49	-.027	.0145	.004
	4.31	.258	.0241	-.005							.48	.013	.0142	-.002
	6.49	.396	.0475	-.005	1.50	-4.16	-.225	.0297	.034		2.05	.078	.0167	-.011
	8.65	.514	.0788	.005		-2.06	-.116	.0179	.018		4.11	.161	.0251	-.023
	10.78	.609	.1155	.007		-.50	-.033	.0138	.006		6.18	.240	.0389	-.034
	12.91	.707	.1612	.002		.49	.020	.0137	-.001		8.24	.319	.0584	-.046
	15.03	.799	.2140	.002		2.07	.102	.0173	-.014		10.30	.395	.0811	-.058
						4.16	.210	.0283	-.030		12.36	.469	.1129	-.068
						6.24	.314	.0462	-.045		14.42	.540	.1475	-.078
											15.97	.593	.1771	-.084

(b) Characteristics for wing-body-tail combination; $\delta_n = +4°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.31	-0.225	0.0256	-0.026	0.015	4.0	0.90	-4.41	-0.257	0.0306	-0.028	0.014	4.0	1.50	4.12	0.264	0.0362	-0.085	-0.040	3.9
	-2.15	-.087	.0140	-.033	.017	4.0		-2.21	-.100	.0169	-.042	.007	4.0		6.20	.379	.0574	-.111	-.049	3.9
	-.48	.004	.0117	-.040	.018	4.0		-.49	.023	.0132	-.054	.004	4.0		7.81	.458	.0783	-.130	-.055	3.9
	.53	.077	.0126	-.045	.018	4.0		.54	.096	.0145	-.062	.003	4.0							
	2.14	.176	.0178	-.053	.018	4.0		2.19	.214	.0214	-.074	0	4.0	1.70	-4.15	-.186	.0290	.020	-.004	4.0
	4.29	.314	.0327	-.060	.015	4.0		4.38	.375	.0406	-.086	0	4.0		-2.06	-.087	.0192	-.001	-.011	4.0
	6.44	.448	.0576	-.063	.010	4.0		6.58	.532	.0717	-.095	-.001	4.0		-.54	-.007	.0161	-.019	-.017	4.0
	8.59	.572	.0911	-.059	.003	4.0		8.77	.677	.1142	-.105	-.006	4.0		.48	.044	.0163	-.030	-.022	4.0
	10.72	.689	.1326	-.058	.002	4.0		10.91	.794	.1642	-.120	-.027	4.0		2.04	.125	.0210	-.047	-.028	3.9
	12.83	.774	.1763	-.047	.001	4.0		12.39	.887	.2071	-.143	-.044	3.9		4.11	.229	.0334	-.072	-.038	3.9
	14.94	.869	.2314	-.054	-.006	4.0									6.18	.329	.0521	-.093	-.048	3.9
	17.05	.968	.2857	-.061	-.015	4.0	1.30	-4.19	-.243	.0343	.024	-.006	4.0		8.25	.426	.0776	-.116	-.056	3.9
	18.11	1.019	.3312	-.064	-.021	4.0		-2.10	-.106	.0218	-.006	-.014	4.0							
								-.56	-.010	.0180	-.028	-.021	4.0	1.90	-4.13	-.167	.0275	.015	-.002	4.0
0.80	-4.37	-.239	.0268	-.028	.021	4.0		.48	.059	.0184	-.044	-.024	4.0		-2.07	-.076	.0191	-.003	-.009	4.0
	-2.19	-.093	.0147	-.038	.023	4.0		2.04	.199	.0239	-.067	-.032	3.9		-.54	-.008	.0168	-.017	-.015	4.0
	-.48	.020	.0122	-.044	.024	4.0		4.13	.299	.0395	-.101	-.041	3.9		.47	.037	.0172	-.026	-.019	4.0
	.54	.089	.0132	-.054	.024	4.0		6.21	.424	.0626	-.131	-.050	3.9		2.03	.106	.0207	-.040	-.027	3.9
	2.17	.196	.0191	-.063	.024	4.0									4.10	.196	.0312	-.056	-.037	3.9
	4.35	.344	.0358	-.071	.022	4.0	1.50	-4.17	-.213	.0312	.024	-.004	4.0		6.16	.284	.0473	-.077	-.046	3.9
	6.53	.489	.0638	-.076	.015	4.0		-2.09	-.096	.0197	-.002	-.013	4.0		8.21	.370	.0696	-.096	-.055	3.9
	8.70	.611	.0995	-.070	.007	4.0		-.72	-.008	.0162	-.022	-.019	4.0		10.27	.451	.0972	-.114	-.063	3.9
	10.83	.724	.1413	-.073	.004	4.0		.48	.052	.0166	-.036	-.024	3.9							
	12.96	.823	.1942	-.083	-.004	4.0		2.05	.143	.0218	-.056	-.031	3.9							

TABLE I.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 AND AN ALL-MOVABLE HORIZONTAL TAIL;
$R=3.8 \times 10^6$ - Continued

(c) Characteristics for wing-body-tail combination; $\delta_n = +2°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.27	-0.240	0.0245	-0.009	0.008	2.1	0.90	-4.37	-0.279	0.0289	-0.003	0.017	2.1	1.50	4.13	0.252	0.0335	-0.072	-.029	2.0
	-2.16	-.108	.0130	-.015	.010	2.1		-2.21	-.123	.0141	-.016	.016	2.1		6.21	.367	.0542	-.099	-.038	2.0
	-.53	-.011	.0099	-.022	.010	2.1		-.55	-.007	.0103	-.026	.014	2.1		8.26	.477	.0624	-.126	-.046	2.0
	.51	.052	.0103	-.027	.011	2.1		.53	.067	.0110	-.037	.013	2.1							
	2.13	.153	.0148	-.034	.013	2.1		2.18	.187	.0171	-.050	.010	2.1	1.70	-4.14	-.195	.0283	.029	.003	2.1
	4.28	.291	.0286	-.042	.014	2.1		4.38	.350	.0352	-.065	.009	2.1		-2.07	-.092	.0181	.007	-.002	2.1
	6.43	.426	.0524	-.046	.016	2.1		6.59	.516	.0668	-.074	.005	2.1		-.54	-.013	.0147	-.009	-.005	2.1
	8.58	.554	.0851	-.043	.016	2.1		8.76	.651	.1068	-.086	-.002	2.1		.48	.035	.0148	-.020	-.012	2.1
	10.71	.659	.1268	-.048	.016	2.1									2.05	.116	.0152	-.036	-.018	2.1
	12.81	.747	.1702	-.031	.013	2.1	1.30	-4.19	-.256	.0337	.056	.004	2.1		4.12	.218	.0310	-.060	-.027	2.0
	14.92	.847	.2255	-.040	.006	2.1		-2.09	-.119	.0208	.008	-.003	2.1		6.18	.317	.0490	-.083	-.036	2.0
	17.04	.958	.2923	-.052	-.002	2.1		-.55	-.019	.0167	-.014	-.010	2.1		8.25	.414	.0737	-.105	-.044	2.0
	18.09	.999	.3247	-.056	-.008	2.1		.48	.047	.0166	-.029	-.014	2.1		10.11	.497	.1012	-.125	-.052	2.0
								2.06	.151	.0220	-.052	-.020	2.1							
0.80	-4.33	-.259	.0267	-.007	.011	2.1		4.14	.290	.0372	-.086	-.029	2.0	1.90	-4.18	-.171	.0272	.022	.007	2.1
	-2.19	-.115	.0134	-.016	.012	2.1		6.23	.427	.0609	-.116	-.037	2.0		-2.06	-.081	.0185	.004	0	2.1
	-.54	-.007	.0100	-.026	.015	2.1		7.18	.486	.0747	-.130	-.042	2.0		-.53	-.013	.0161	-.009	-.006	2.1
	.52	.062	.0103	-.033	.016	2.1									.48	.030	.0162	-.018	-.011	2.1
	2.16	.174	.0158	-.043	.019	2.1	1.50	-4.16	-.223	.0302	.034	.004	2.1		2.04	.100	.0194	-.032	-.018	2.1
	4.34	.324	.0317	-.053	.021	2.1		-2.06	-.104	.0186	.008	-.003	2.1		4.10	.190	.0294	-.050	-.027	2.0
	6.52	.471	.0589	-.060	.021	2.1		-.54	-.018	.0146	-.011	-.009	2.1		6.16	.276	.0450	-.068	-.035	2.0
	8.69	.595	.0946	-.056	.022	2.1		.48	.041	.0148	-.024	-.013	2.1		8.21	.361	.0666	-.087	-.043	2.0
	10.81	.694	.1352	-.059	.022	2.1		2.05	.133	.0196	-.044	-.020	2.1		10.27	.441	.0935	-.104	-.051	2.0
	12.96	.814	.1897	-.074	.028	2.1									12.33	.521	.1265	-.122	-.059	2.0

(d) Characteristics for wing-body-tail combination; $\delta_n = 0°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.27	-0.266	0.0258	0.010	0.004	0.1	0.90	-4.36	-0.311	0.0307	0.020	0.004	0.1	1.50	4.18	0.243	0.0319	-0.060	-0.023	0.1
	-2.11	-.131	.0133	.004	.004	.1		-2.16	-.144	.0144	.008	.006	.1		6.26	.359	.0525	-.087	-.032	0
	-.50	-.035	.0097	-.003	.002	.1		-.48	-.036	.0099	-.002	.007	.1		8.35	.470	.0606	-.114	-.041	.1
	.56	-.030	.0095	-.008	.003	.1		.58	.040	.0098	-.011	.008	.1							
	2.17	.129	.0131	-.016	.004	.1		2.22	.159	.0146	-.024	.008	.1	1.70	-4.13	-.207	.0292	.039	.011	.1
	4.30	.264	.0254	-.023	.005	.1		4.40	.319	.0313	-.039	.010	.1		-2.07	-.101	.0182	.016	.002	.1
	6.48	.400	.0482	-.027	.008	.1		6.63	.480	.0609	-.049	.011	.1		-.44	-.023	.0145	0	-.003	.1
	8.63	.525	.0802	-.023	.010	.1		8.81	.621	.1007	-.060	.008	.1		.56	.029	.0144	-.012	-.007	.1
	10.77	.645	.1208	-.023	.012	.1									2.11	.110	.0185	-.029	-.014	.1
	12.84	.718	.1615	-.011	.012	.1	1.30	-4.16	-.274	.0347	.054	.011	.1		4.17	.212	.0298	-.050	-.022	.1
	14.93	.822	.2160	-.021	.013	.1		-2.06	-.132	.0206	.023	.002	.1		6.26	.313	.0479	-.073	-.032	0
	17.02	.928	.2793	-.035	.011	.1		-.45	-.031	.0160	.001	-.003	.1		8.33	.411	.0725	-.095	-.040	0
	18.06	.978	.3136	-.043	.005	.1		.56	.035	.0161	-.014	-.006	.1		10.40	.502	.1033	-.116	-.049	0
								2.12	.126	.0200	-.038	-.015	.1							
0.80	-4.32	-.287	.0280	.015	.004	.1		4.19	.277	.0354	-.070	-.023	.1	1.90	-4.11	-.180	.0279	.029	.011	.1
	-2.14	-.140	.0138	.005	.003	.1		6.31	.416	.0590	-.102	-.032	0		-2.04	-.088	.0186	.012	.002	.1
	-.51	-.036	.0097	.003	.003	.1		8.39	.542	.0909	-.132	-.041	0		-.44	-.020	.0160	-.001	-.002	.1
	.57	-.035	.0096	-.011	.003	.1									.55	.026	.0159	-.011	-.007	.1
	2.20	.144	.0137	-.020	.005	.1	1.50	-4.14	-.239	.0312	.047	.011	0		2.10	.095	.0189	-.024	-.014	.1
	4.36	.290	.0280	-.031	.006	.1		-2.05	-.116	.0184	.020	.001	0		4.15	.183	.0284	-.042	-.024	0
	6.57	.441	.0544	-.038	.011	.1		-.45	-.026	.0142	.001	-.002	.1		6.24	.270	.0440	-.059	-.031	0
	8.73	.562	.0880	-.033	.014	.1		.56	.032	.0143	-.012	-.007	.1		8.30	.355	.0654	-.076	-.041	0
	10.86	.659	.1271	-.036	.014	.1		2.11	.124	.0186	-.033	-.015	.1		10.36	.435	.0980	-.095	-.049	0
	12.98	.783	.1805	-.051	.018	.1									12.39	.513	.1238	-.112	-.057	0

TABLE I.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 AND AN ALL-MOVABLE HORIZONTAL TAIL;
$R = 3.8 \times 10^6$ – Continued

(e) Characteristics for wing-body-tail combination; $\delta_n = -2°$

M	α	C_L	C_D	C_m	C_l	δ
0.60	-4.29	-0.283	0.0273	.026	0	-1.9
	-2.14	-.150	.0139	.020	.001	-1.9
	-.52	-.053	.0099	.013	.002	-1.9
	.52	.010	.0095	.008	.002	-1.9
	2.11	.106	.0126	.002	-.001	-1.9
	4.26	.243	.0243	-.007	-.001	-1.9
	6.41	.377	.0461	-.010	.002	-1.9
	8.56	.504	.0773	-.006	.003	-1.9
	10.69	.617	.1168	-.005	.005	-1.9
	12.79	.696	.1569	.007	.005	-1.9
	14.90	.796	.2096	-.002	.007	-1.9
	17.01	.900	.2718	-.016	.010	-1.9
	18.08	.959	.3078	-.024	.011	-1.9
0.80	-4.35	-.309	.0297	.033	0	-1.9
	-2.17	-.162	.0144	.024	.001	-1.9
	-.53	-.056	.0097	.012	.002	-1.9
	.53	.012	.0093	.009	0	-1.9
	2.14	.118	.0127	-.001	0	-1.9
	4.32	.267	.0263	-.011	0	-1.9
	6.49	.411	.0508	-.017	.002	-1.9
	8.66	.556	.0841	-.013	.004	-1.9
	10.79	.634	.1220	-.013	.004	-1.9
	12.93	.750	.1736	-.025	.007	-1.9
	14.08	.818	.2055	-.039	.011	-1.9

M	α	C_L	C_D	C_m	C_l	δ
0.90	-4.39	-0.335	0.0327	0.042	0.003	-1.9
	-2.19	-.172	.0152	.028	.002	-1.9
	-.54	-.058	.0099	.015	-.001	-1.9
	.54	.019	.0096	.007	0	-1.9
	2.16	.130	.0137	-.003	0	-1.9
	4.36	.292	.0293	-.016	.004	-1.9
	6.57	.452	.0575	-.025	.006	-1.9
	8.75	.593	.0963	-.034	.008	-1.9
1.30	-4.16	-.287	.0362	.070	.022	-1.9
	-2.08	-.147	.0215	.038	.013	-1.9
	-.50	-.043	.0162	.014	.006	-1.9
	.49	.021	.0160	0	.002	-1.9
	2.07	.122	.0200	-.022	-.002	-1.9
	4.16	.258	.0332	-.054	-.010	-1.9
	6.25	.395	.0554	-.085	-.018	-1.9
	8.33	.522	.0862	-.115	-.026	-2.0
1.50	-4.24	-.248	.0330	.058	.022	-1.9
	-2.07	-.128	.0193	.031	.012	-1.9
	-.49	-.035	.0145	.011	.005	-1.9
	.49	.020	.0143	-.001	.001	-1.9
	2.07	.110	.0182	-.021	-.003	-1.9
	4.14	.228	.0304	-.047	-.011	-1.9
	6.22	.342	.0496	-.074	-.019	-1.9

M	α	C_L	C_D	C_m	C_l	δ
1.50	8.29	.453	.0764	-0.100	-0.029	-2.0
	10.10	.545	.1057	-.122	-.037	-2.0
1.70	-4.13	-.215	.0301	.047	.021	-1.9
	-2.06	-.110	.0186	.025	.012	-1.9
	-.49	-.031	.0145	.008	.005	-1.9
	.48	.018	.0142	-.003	.001	-1.9
	2.06	.098	.0179	-.019	-.003	-1.9
	4.13	.200	.0287	-.041	-.011	-1.9
	6.20	.296	.0454	-.062	-.020	-1.9
	8.26	.394	.0692	-.084	-.028	-2.0
	10.32	.485	.0987	-.105	-.038	-2.0
1.90	-4.12	-.188	.0287	.037	.023	-1.9
	-2.06	-.097	.0190	.019	.013	-1.9
	-.49	-.027	.0160	.005	.006	-1.9
	.48	.015	.0159	-.003	.002	-1.9
	2.05	.085	.0184	-.017	-.003	-1.9
	4.11	.173	.0276	-.034	-.013	-1.9
	6.17	.259	.0423	-.051	-.021	-1.9
	8.23	.343	.0630	-.069	-.029	-2.0
	10.28	.423	.0890	-.086	-.037	-2.0
	12.34	.502	.1205	-.102	-.045	-2.0
	14.40	.579	.1578	-.118	-.052	-2.0

(f) Characteristics for wing-body-tail combination; $\delta_n = -4°$

M	α	C_L	C_D	C_m	C_l	δ
0.60	-4.29	-0.311	0.0303	0.045	-0.011	-3.9
	-2.14	-.180	.0159	.039	-.009	-3.9
	-.49	-.079	.0107	.032	-.008	-3.9
	.52	-.016	.0097	.027	-.007	-3.9
	2.18	.083	.0123	.019	-.005	-3.9
	4.26	.218	.0227	.011	-.004	-3.9
	6.16	.354	.0440	.007	-.003	-3.9
	8.60	.476	.0737	.011	-.002	-3.9
	10.75	.593	.1129	.012	-.001	-3.9
	12.82	.669	.1522	.025	0	-3.9
0.80	-4.35	-.339	.0331	.057	-.015	-3.9
	-2.16	-.196	.0166	.048	-.013	-3.9
	-.51	-.088	.0097	.038	-.011	-3.9
	.54	-.015	.0096	.031	-.008	-3.9
	2.22	.095	.0126	.020	-.006	-3.9
	4.34	.239	.0249	.010	-.003	-3.9
	6.56	.391	.0496	.003	-.002	-3.9
	8.72	.509	.0811	.008	0	-3.9
	10.85	.607	.1185	.008	0	-3.9
0.90	-4.38	-.372	.0376	.073	.007	-3.9
	-2.18	-.209	.0182	.057	.001	-3.9
	-.51	-.091	.0112	.044	-.002	-3.9

M	α	C_L	C_D	C_m	C_l	δ
0.90	0.55	-0.014	0.0100	0.034	-0.003	-3.9
	2.24	.108	.0135	.020	-.005	-3.9
	4.38	.265	.0277	.005	-.003	-3.9
	6.61	.424	.0553	-.004	-.002	-3.9
	8.79	.570	.0939	-.014	-.002	-3.9
1.30	-4.14	-.303	.0367	.086	.027	-3.8
	-2.05	-.161	.0230	.054	.021	-3.9
	-.45	-.057	.0171	.030	.014	-3.9
	.61	.012	.0166	.015	.010	-3.9
	2.13	.111	.0808	-.006	.004	-3.9
	4.21	.246	.0327	-.039	-.003	-3.9
	6.33	.381	.0592	-.070	-.010	-3.9
	8.41	.509	.0844	-.100	-.018	-3.9
	10.19	.608	.1165	-.121	-.025	-4.0
1.50	-4.13	-.261	.0347	.073	.029	-3.8
	-2.04	-.139	.0205	.044	.021	-3.9
	-.44	-.047	.0152	.023	.014	-3.9
	.61	.014	.0149	.010	.010	-3.9
	2.13	.102	.0185	-.010	.002	-3.9
	4.19	.218	.0226	-.036	-.004	-3.9
	6.30	.331	.0494	-.062	-.012	-3.9
	8.37	.442	.0753	-.088	-.020	-3.9
	10.45	.547	.1066	-.113	-.029	-4.0

M	α	C_L	C_D	C_m	C_l	δ
1.70	-4.12	-0.227	0.0320	0.058	0.029	-3.8
	-2.04	-.122	.0198	.035	.020	-3.9
	-.44	-.040	.0152	.018	.013	-3.9
	.60	.013	.0147	.006	.009	-3.9
	2.11	.090	.0179	-.010	.002	-3.9
	4.17	.191	.0283	-.031	-.006	-3.9
	6.27	.290	.0450	-.053	-.014	-3.9
	8.34	.387	.0677	-.075	-.022	-3.9
	10.41	.479	.0975	-.095	-.031	-4.0
	12.44	.567	.1325	-.115	-.040	-4.0
1.90	-4.10	-.195	.0296	.049	.028	-3.8
	-2.03	-.105	.0195	.027	.019	-3.9
	-.44	-.035	.0161	.013	.011	-3.9
	.59	.012	.0159	.004	.006	-3.9
	2.10	.077	.0182	-.009	0	-3.9
	4.15	.165	.0268	-.026	-.008	-3.9
	6.24	.250	.0413	-.043	-.017	-3.9
	8.30	.334	.0614	-.060	-.025	-4.0
	10.36	.414	.0872	-.077	-.033	-4.0
	12.39	.491	.1179	-.093	-.040	-4.0
	14.43	.565	.1536	-.108	-.047	-4.0
	15.46	.604	.1743	-.115	-.052	-4.0

NACA

TABLE I.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR WING OF ASPECT RATIO 3 AND AN ALL-MOVABLE HORIZONTAL TAIL; $R = 3.8 \times 10^6$ - Continued

(g) Characteristics for wing-body-tail combination; $\delta_n = -8°$

M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.32	-0.348	0.0397	0.074	0.008	-8.0
	-2.18	-.222	.0228	.071	.002	-8.0
	-.57	-.127	.0163	.066	-.003	-8.0
	.42	-.067	.0141	.062	-.007	-8.0
	2.10	.052	.0140	.056	-.011	-8.0
	4.27	.172	.0225	.046	-.013	-8.0
	6.42	.307	.0409	.042	-.011	-8.0
	8.56	.435	.0692	.044	-.010	-8.0
	10.65	.548	.1027	.045	-.008	-8.0
	12.80	.668	.1420	.059	-.008	-8.0
	14.86	.722	.1908	.050	-.005	-8.0
	16.96	.826	.2489	.057	-.003	-8.0
	18.04	.882	.2823	.029	-.002	-8.0
0.80	-4.36	-.385	.0430	.092	-.016	-8.0
	-2.20	-.241	.0241	.084	-.018	-8.0
	-.58	-.135	.0168	.076	-.019	-8.0
	.43	-.071	.0145	.071	-.020	-8.0
	2.13	.039	.0148	.062	-.020	-8.0
	4.33	.189	.0246	.051	-.019	-8.0
	6.51	.337	.0458	.063	-.017	-8.0
	8.67	.462	.0754	.048	-.015	-8.0
	10.80	.556	.1099	.050	-.014	-8.0
	12.89	.664	.1543	.038	-.009	-8.0
	15.02	.782	.2110	.015	-.003	-8.0

M	α	C_L	C_D	C_m	C_h	δ
0.90	-4.40	-0.404	0.0467	0.105	0.012	-8.0
	-2.21	-.253	.0268	.097	.012	-8.0
	-.57	-.136	.0186	.086	.009	-8.0
	.43	-.072	.0164	.080	.008	-8.0
	2.17	.048	.0168	.068	.003	-8.0
	4.36	.214	.0287	.053	-.001	-8.0
	6.56	.370	.0525	.044	0	-8.0
	8.72	.508	.0664	.037	.003	-8.0
	10.85	.608	.1266	.031	.020	-8.0
1.30	-4.14	-.309	.0454	.110	.047	-7.9
	-2.05	-.190	.0283	.081	.039	-7.9
	-.49	-.068	.0212	.077	.033	-7.9
	.49	-.023	.0196	.044	.029	-7.9
	2.14	.083	.0222	.030	.020	-8.0
	4.19	.215	.0327	-.010	.017	-8.0
	6.27	.369	.0521	-.040	.009	-8.0
	8.36	.479	.0810	-.069	.002	-8.0
	10.44	.594	.1176	-.093	-.004	-8.0
1.50	-4.13	-.266	.0412	.097	.046	-7.9
	-2.05	-.162	.0251	.067	.038	-7.9
	-.49	-.070	.0186	.045	.033	-7.9
	.49	-.012	.0175	.033	.029	-7.9
	2.13	.079	.0208	.012	.022	-8.0
	4.17	.195	.0302	-.014	.013	-8.0

M	α	C_L	C_D	C_m	C_h	δ
1.50	6.24	0.306	0.0475	-0.039	0.005	-8.0
	8.32	.418	.0726	-.064	-.001	-8.0
	10.39	.520	.1043	-.088	-.009	-8.0
	11.74	.587	.1292	-.103	-.015	-8.0
1.70	-4.12	-.244	.0368	.077	.047	-7.9
	-2.05	-.138	.0233	.053	.039	-7.9
	-.49	-.058	.0180	.035	.030	-7.9
	.49	-.007	.0171	.025	.025	-7.9
	2.12	.073	.0196	.008	.018	-8.0
	4.15	.171	.0269	-.013	.009	-8.0
	6.21	.267	.0438	-.033	.001	-8.0
	8.28	.363	.0659	-.052	-.005	-8.0
	10.35	.454	.0941	-.073	-.014	-8.0
	12.41	.542	.1266	-.093	-.023	-8.0
1.90	-4.11	-.212	.0336	.060	.044	-7.9
	-2.04	-.119	.0223	.041	.034	-7.9
	-.49	-.050	.0185	.008	.027	-7.9
	.48	-.005	.0177	.013	.022	-8.0
	2.10	.063	.0196	.006	.014	-8.0
	4.12	.150	.0274	-.011	.005	-8.0
	6.18	.239	.0408	-.026	-.002	-8.0
	8.24	.316	.0603	-.042	-.010	-8.0
	10.30	.396	.0853	-.058	-.019	-8.0
	12.36	.473	.1154	-.074	-.026	-8.1
	14.42	.549	.1509	-.088	-.033	-8.1

(h) Characteristics for wing-body-tail combination; $\delta_n = -12°$

M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.31	-0.348	0.0454	0.077	0.030	-12.0
	-2.17	-.224	.0299	.078	.027	-12.0
	-.57	-.134	.0236	.077	.024	-12.0
	.41	-.081	.0214	.076	.022	-12.0
	2.06	.011	.0208	.074	.017	-12.0
	4.25	.140	.0277	.071	.011	-12.0
	6.40	.272	.0445	.070	.007	-12.0
	8.55	.395	.0703	.075	.001	-12.0
	10.68	.507	.1028	.078	-.002	-12.0
	12.78	.587	.1377	.093	-.004	-12.0
	14.68	.674	.1817	.087	-.009	-12.0
0.80	-4.36	-.355	.0459	.074	.030	-12.0
	-2.19	-.221	.0292	.074	.029	-12.0
	-.57	-.124	.0229	.073	.029	-12.0
	.43	-.066	.0210	.070	.027	-12.0
	2.14	.034	.0212	.070	.022	-12.0
	4.33	.172	.0306	.087	.015	-12.0
	6.52	.313	.0510	.066	.007	-12.0
	8.67	.434	.0791	.073	.002	-12.0
	10.80	.526	.1123	.076	-.002	-12.0
	12.93	.626	.1561	.075	-.008	-12.0
0.90	-4.40	-.385	.0498	.088	.035	-11.9
	-2.20	-.232	.0306	.080	.033	-11.9
	-.56	-.124	.0234	.077	.031	-11.9
	.44	-.063	.0213	.074	.029	-11.9

M	α	C_L	C_D	C_m	C_h	δ
0.90	2.15	0.037	0.0238	0.079	0.027	-12.0
	4.38	.183	.0358	.061	.017	-12.0
	6.58	.339	.0587	.074	.015	-12.0
	8.76	.475	.0919	.072	.014	-12.0
	10.89	.568	.1318	.075	-.043	-11.9
1.30	-4.14	-.354	.0542	.133	.069	-11.9
	-2.04	-.214	.0364	.105	.060	-11.9
	-.47	-.113	.0287	.084	.054	-11.9
	.50	-.049	.0266	.070	.050	-11.9
	2.15	.056	.0281	.047	.041	-11.9
	4.24	.191	.0361	.017	.031	-11.9
	6.29	.322	.0553	-.011	.028	-11.9
	8.38	.452	.0827	-.039	.028	-12.0
	10.46	.567	.1180	-.064	.013	-12.0
	11.34	.611	.1352	-.072	.010	-12.0
1.50	-4.12	-.308	.0494	.116	.056	-11.9
	-2.04	-.193	.0335	.094	.053	-11.9
	-.48	-.097	.0257	.071	.048	-11.9
	.49	-.038	.0236	.056	.044	-11.9
	2.14	.056	.0252	.036	.040	-11.9
	4.18	.178	.0339	.009	.031	-11.9
	6.25	.284	.0497	-.016	.021	-12.0
	8.33	.394	.0732	-.040	.012	-12.0
	10.40	.496	.1040	-.064	.006	-12.0
	12.47	.597	.1420	-.086	0	-12.0

M	α	C_L	C_D	C_m	C_h	δ
1.70	-4.11	-0.267	0.0448	0.098	0.062	-11.9
	-2.04	-.158	.0296	.073	.055	-11.9
	-.49	-.080	.0235	.054	.049	-11.9
	.49	-.027	.0220	.043	.044	-11.9
	2.12	.054	.0239	.027	.035	-11.9
	4.16	.154	.0319	.006	.025	-11.9
	6.23	.251	.0462	-.014	.015	-12.0
	8.29	.343	.0670	-.033	.006	-12.0
	10.36	.436	.0939	-.053	0	-12.0
	12.42	.529	.1276	-.072	-.009	-12.0
	13.82	.580	.1569	-.084	-.014	-12.0
1.90	-4.10	-.227	.0398	.077	.059	-11.9
	-2.04	-.136	.0277	.057	.049	-11.9
	-.49	-.066	.0231	.043	.040	-11.9
	.48	-.023	.0220	.035	.035	-11.9
	2.10	.048	.0234	.022	.029	-11.9
	4.13	.134	.0307	.005	.020	-12.0
	6.19	.217	.0431	-.010	.010	-12.0
	8.25	.298	.0618	-.026	.001	-12.0
	10.31	.379	.0862	-.040	-.005	-12.0
	12.36	.456	.1153	-.055	-.015	-12.0
	14.42	.531	.1500	-.069	-.021	-12.0
	16.18	.595	.1841	-.080	-.026	-12.1

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TABLE I.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 AND AN ALL-MOVABLE HORIZONTAL TAIL;
R=3.8 × 10⁶ - Continued

(i) Characteristics for wing-body-tail combination; $\delta_n = -16°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.31	-0.332	0.0481	0.068	0.031	-16.0	0.90	-2.20	-0.231	0.0358	0.082	0.038	-16.0	1.50	10.41	0.473	0.1067	-0.041	0.018	-16.0
	-2.16	-.208	.0331	.068	.030	-16.0		-.56	-.122	.0291	.077	.037	-16.0		12.48	.573	.1434	-.064	.010	-16.0
	-.56	-.118	.0279	.068	.030	-16.0		.65	-.058	.0270	.074	.037	-16.0	1.70	-4.10	-.285	.0546	.117	.062	-15.9
	.43	-.064	.0262	.067	.031	-16.0		2.18	.053	.0268	.068	.036	-16.0		-2.02	-.180	.0390	.095	.061	-15.9
	2.10	.024	.0268	.068	.031	-16.0		4.36	.207	.0405	.061	.035	-16.0		-.47	-.098	.0314	.073	.057	-15.9
	4.26	.148	.0345	.073	.032	-16.0		6.59	.359	.0648	.058	.035	-16.0		.49	-.048	.0292	.063	.054	-15.9
	6.40	.265	.0512	.077	.029	-16.0		8.77	.495	.0996	.058	.034	-16.0		2.12	.033	.0300	.046	.048	-15.9
	8.55	.386	.0778	.086	.021	-16.0									4.21	.135	.0372	.024	.038	-15.9
	10.68	.493	.1092	.093	.016	-16.0	1.30	-3.09	-.307	.0772	.142	.080	-15.8		6.23	.230	.0504	.004	.027	-15.9
	12.78	.567	.1426	.109	-.015	-16.0		-2.03	-.236	.0468	.128	.077	-15.8		8.30	.323	.0704	-.015	.018	-16.0
	14.87	.644	.1839	.109	.010	-16.0		-.46	-.137	.0361	.107	.070	-15.9		10.37	.413	.0964	-.034	.010	-16.0
	16.97	.735	.2320	.104	.001	-16.0		-.50	-.074	.0375	.094	.066	-15.9		12.43	.501	.1264	-.053	.003	-16.0
	18.02	.779	.2624	.098	-.003	-16.0		2.15	.030	.0359	.070	.058	-15.9		14.50	.583	.1665	-.069	-.003	-16.0
								4.26	.167	.0446	.040	.046	-15.9							
0.80	-4.36	-.355	.0506	.076	.032	-16.0		6.30	.295	.0612	.013	.037	-15.9	1.90	-4.09	-.246	.0478	.095	.073	-15.8
	-2.18	-.216	.0335	.073	.031	-16.0		8.39	.423	.0872	-.013	.031	-15.9		-2.03	-.122	.0345	.074	.063	-15.9
	-.56	-.118	.0277	.070	.031	-16.0		10.47	.535	.1210	-.035	.029	-15.9		-.48	-.062	.0291	.059	.054	-15.9
	.44	-.058	.0259	.068	.031	-16.0		11.91	.610	.1488	-.050	.023	-16.0		.48	-.038	.0276	.052	.041	-15.9
	2.14	.042	.0266	.066	.031	-16.0									2.10	.030	.0283	.038	.041	-15.9
	4.33	.179	.0364	.062	.031	-16.0	1.50	-4.11	-.385	.0594	.133	.068	-15.9		4.18	.119	.0349	.021	.031	-15.9
	6.51	.320	.0577	.065	.031	-16.0		-2.03	-.206	.0423	.109	.062	-15.9		6.20	.200	.0470	.006	.021	-16.0
	8.67	.434	.0861	.074	.029	-16.0		-.47	-.116	.0344	.090	.057	-15.9		8.26	.281	.0648	-.010	.013	-16.0
	10.80	.531	.1201	.079	.026	-16.0		.49	-.062	.0323	.078	.074	-15.9		10.32	.361	.0881	-.024	.005	-16.0
	12.92	.612	.1601	.085	.022	-16.0		2.14	.030	.0329	.059	.049	-15.9		12.37	.437	.1167	-.037	-.002	-16.0
	15.03	.700	.2089	.082	.001	-16.0		4.23	.149	.0406	.032	.043	-15.9		14.43	.512	.1505	-.051	-.010	-16.0
								6.27	.261	.0551	.007	.036	-15.9		16.49	.586	.1899	-.064	-.016	-16.0
0.90	-4.40	-.385	.0551	.091	.038	-16.0		8.34	.370	.0774	-.018	.026	-15.9							

(j) Characteristics for wing-body-tail combination; $\delta_n = -20°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.30	-0.331	0.0541	0.071	0.032	-19.9	0.90	-4.38	-0.387	0.0623	0.098	0.046	-19.8	1.50	10.42	0.449	0.1104	-0.019	0.043	-19.8
	-2.16	-.208	.0394	.071	.030	-19.9		-2.19	-.235	.0430	.089	.044	-19.8		12.49	.547	.1453	-.042	.033	-19.8
	-.56	-.118	.0335	.069	.030	-19.9		-.56	-.128	.0361	.084	.045	-19.8	1.70	-4.09	-.297	.0650	.130	.077	-19.7
	.43	-.062	.0317	.069	.029	-19.9		.45	-.063	.0340	.080	.045	-19.8		-2.01	-.196	.0500	.111	.072	-19.7
	2.09	.024	.0315	.066	.029	-19.9		2.15	.046	.0345	.073	.042	-19.8		-.46	-.119	.0425	.096	.070	-19.7
	4.26	.153	.0393	.066	.030	-19.9		4.37	.201	.0468	.066	.040	-19.8		.49	-.070	.0398	.085	.069	-19.8
	6.40	.276	.0564	.068	.032	-19.9		6.57	.354	.0711	.061	.039	-19.8		2.12	.012	.0392	.066	.066	-19.8
	8.54	.396	.0831	.077	.034	-19.9		8.75	.492	.1055	.058	.041	-19.8		4.22	.116	.0477	.044	.059	-19.8
	10.67	.496	.1148	.088	.035	-19.9		10.89	.586	.1467	.070	.050	-19.8		6.28	.212	.0569	.022	.049	-19.8
	12.77	.568	.1490	.108	.035	-19.9									8.31	.305	.0753	.003	.040	-19.8
	14.85	.632	.1907	.116	.032	-19.9	1.30	-2.02	-.251	.0582	.144	.096	-19.7		10.37	.396	.1005	-.016	.031	-19.8
	16.95	.711	.2375	.118	.024	-19.9		-.49	-.155	.0490	.126	.091	-19.7		12.44	.483	.1317	-.034	.021	-19.9
	18.00	.756	.2659	.116	.019	-19.9		.51	-.095	.0467	.113	.088	-19.7		14.50	.566	.1686	-.051	.013	-19.9
								2.15	.006	.0457	.093	.081	-19.7							
0.80	-4.36	-.361	.0577	.082	.037	-19.8		4.26	.143	.0547	.062	.072	-19.8	1.90	-4.08	-.265	.0607	.115	.066	-19.8
	-2.18	-.221	.0405	.078	.036	-19.8		6.35	.273	.0685	.034	.063	-19.8		-2.02	-.171	.0457	.094	.071	-19.8
	-.56	-.123	.0339	.075	.034	-19.8		8.39	.396	.0929	.009	.056	-19.8		-.47	-.100	.0390	.079	.067	-19.8
	.44	-.062	.0320	.072	.034	-19.8		10.47	.506	.1258	-.012	.051	-19.8		.48	-.057	.0369	.070	.061	-19.8
	2.14	.039	.0325	.068	.034	-19.8		12.55	.612	.1658	-.030	.044	-19.8		2.11	.013	.0365	.055	.052	-19.8
	4.33	.179	.0421	.064	.034	-19.8									4.19	.103	.0422	.037	.040	-19.8
	6.50	.319	.0628	.063	.034	-19.8	1.50	-2.09	-.221	.0530	.126	.082	-19.7		6.25	.184	.0535	.021	.033	-19.8
	8.66	.438	.0914	.072	.034	-19.8		.46	-.134	.0444	.109	.076	-19.7		8.27	.265	.0706	.006	.023	-19.9
	10.80	.538	.1265	.076	.034	-19.8		.49	-.081	.0418	.097	.074	-19.7		10.33	.345	.0935	-.009	.015	-19.9
	12.91	.619	.1673	.082	.034	-19.8		2.14	.010	.0415	.078	.067	-19.8		12.39	.421	.1212	-.022	.007	-19.9
	15.02	.706	.2167	.080	.033	-19.9		4.24	.127	.0485	.053	.059	-19.8		14.45	.494	.1540	-.035	.004	-19.9
	17.11	.770	.2655	.083	.023	-19.9		6.32	.237	.0622	.089	.055	-19.8		16.51	.568	.1924	-.048	0.	-19.9
	18.17	.810	.2958	.082	.008	-19.9		8.37	.345	.0826	.004	.052	-19.8							

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TABLE I.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 AND AN ALL-MOVABLE HORIZONTAL TAIL;
R=3.8 × 10⁶ - Concluded
 (k) Characteristics for wing-body-tail combination; $\delta_n = -24°$

M	α	c_L	c_D	c_m	c_n	δ	M	α	c_L	c_D	c_m	c_n	δ	M	α	c_L	c_D	c_m	c_n	δ
0.60	-4.30	-0.335	0.0607	0.074	0.038	-23.9	0.90	-4.39	-0.393	0.0706	0.104	0.057	-23.8	1.50	10.44	0.628	0.1202	0.002	0.043	-23.8
	-2.16	-.206	.0419	.073	.038	-23.9		-2.19	-.240	.0507	.096	.057	-23.6		12.52	.527	.1544	-.019	.038	-23.8
	-.56	-.119	.0393	.072	.038	-23.9		-.56	-.134	.0438	.090	.054	-23.8							
	.43	-.065	.0374	.070	.037	-23.9		.45	-.070	.0417	.087	.052	-23.8	1.70	-4.09	-.305	.0758	.136	.080	-23.7
	2.10	.085	.0377	.069	.036	-23.9		2.16	-.040	.0422	.080	.048	-23.8		-2.01	-.209	.0615	.122	.075	-23.7
	4.26	.192	.0451	.067	.036	-23.9		4.38	.199	.0545	.073	.046	-23.8		-.45	-.134	.0540	.108	.072	-23.7
	6.41	.278	.0627	.069	.037	-23.9		6.58	.354	.0790	.067	.048	-23.8		.50	-.087	.0514	.099	.070	-23.7
	8.56	.405	.0904	.077	.036	-23.9		8.76	.495	.1136	.061	.049	-23.8		2.12	-.008	.0509	.083	.065	-23.8
	10.69	.507	.1224	.084	.035	-23.9									4.23	.093	.0552	.063	.062	-23.8
	12.79	.581	.1578	.101	.038	-23.9	1.30	-2.02	-.265	.0719	.154	.101	-23.7		6.30	.192	.0670	.042	.050	-23.8
	14.88	.657	.2018	.109	.040	-23.9		-.45	-.170	.0628	.138	.097	-23.7		8.32	.286	.0840	.020	.047	-23.8
	16.97	.723	.2485	.114	.040	-23.9		.51	-.112	.0597	.127	.094	-23.7		10.39	.378	.1064	0	.034	-23.8
	18.02	.758	.2752	.117	.038	-23.9		2.14	-.013	.0585	.107	.089	-23.7		12.46	.466	.1387	-.018	.023	-23.8
								4.26	.124	.0655	.078	.083	-23.7		14.52	.548	.1752	-.034	.016	-23.9
0.80	-4.36	-.363	.0656	.086	.046	-23.8		6.34	.250	.0802	.052	.073	-23.8							
	-2.18	-.225	.0478	.085	.045	-23.8		8.38	.372	.1037	.029	.063	-23.8	1.90	-4.08	-.277	.0716	.124	.071	-23.8
	-.56	-.127	.0417	.080	.045	-23.8		10.46	.483	.1352	.009	.056	-23.8		-2.01	-.190	.0586	.110	.067	-23.8
	.44	-.068	.0393	.077	.044	-23.8		12.54	.585	.1737	-.009	.050	-23.8		-.46	-.122	.0526	.098	.066	-23.8
	2.14	.034	.0399	.073	.042	-23.8									.49	-.081	.0501	.091	.069	-23.8
	4.33	.176	.0492	.069	.040	-23.8	1.50	-2.01	-.234	.0653	.136	.083	-23.7		2.11	-.006	.0477	.073	.068	-23.8
	6.51	.315	.0697	.067	.039	-23.8		-.45	-.149	.0570	.121	.079	-23.7		4.20	.087	.0518	.053	.057	-23.8
	8.68	.442	.0996	.075	.038	-23.8		.51	-.098	.0544	.111	.076	-23.7		6.26	.172	.0626	.036	.047	-23.8
	10.83	.547	.1362	.076	.037	-23.8		2.14	-.009	.0539	.094	.070	-23.7		8.28	.251	.0786	.020	.036	-23.8
	12.93	.628	.1770	.078	.037	-23.8		4.25	.109	.0637	.067	.064	-23.8		10.34	.331	.1009	.005	.026	-23.8
	15.05	.718	.2272	.074	.040	-23.8		6.33	.221	.0726	.045	.056	-23.8		12.40	.408	.1282	-.009	.017	-23.9
	17.15	.788	.2795	.072	.043	-23.8		8.37	.324	.0925	.024	.046	-23.8		14.46	.482	.1605	-.021	.009	-23.9
															16.52	.556	.1987	-.033	.004	-23.9

TABLE II.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 WITH LEADING-EDGE CHORD EXTENSIONS AND AN ALL-
MOVABLE HORIZONTAL TAIL
 (a) Characteristics for wing-body combination with horizontal tail
removed (vertical fins not removed)

M	α	c_L	c_D	c_m	M	α	c_L	c_D	c_m	M	α	c_L	c_D	c_m
0.60	-4.30	-0.270	0.0264	0	0.90	0.51	0.024	0.0088	0.002	1.50	-0.52	-0.039	0.0151	0.007
	-2.16	-.144	.0138	.002		1.07	.061	.0092	0		.50	.019	.0146	-.002
	-1.07	-.079	.0103	.002		2.18	.135	.0118	-.002		1.03	.048	.0192	-.006
	-.58	-.049	.0095	.002		4.37	.288	.0253	-.007		2.08	.105	.0181	-.014
	.52	-.017	.0091	.002		6.58	.448	.0526	-.013		4.17	.213	.0293	-.030
	1.04	.045	.0094	.002		8.77	.602	.0934	-.023		6.25	.320	.0475	-.046
	2.12	.107	.0111	.002		10.95	.768	.1470	-.050		8.33	.422	.0725	-.061
	4.25	.230	.0197	.002							10.40	.518	.1040	-.077
	6.40	.339	.0411	.005	1.20	-4.22	-.308	.0356	.046					
	8.54	.482	.0705	.009		-2.11	-.158	.0200	.025	1.70	-4.16	-.206	.0303	.030
	10.68	.608	.1098	.009		-1.06	-.083	.0158	.014		-2.08	-.109	.0194	.017
	12.81	.729	.1578	.008		-.52	-.048	.0145	.009		-1.04	-.059	.0162	.010
	14.94	.834	.2128	.010		.50	.026	.0139	-.002		-.51	-.034	.0153	.006
	16.97	.910	.2671	.024		2.10	.132	.0178	-.017		.49	.018	.0148	-.001
	18.06	.917	.2897	.034		4.20	.276	.0311	-.039		1.03	.043	.0151	-.005
						1.04	.061	.0144	-.006		2.07	.093	.0175	-.012
0.80	-4.37	-.257	.0293	.005		6.30	.420	.0701	-.061		4.15	.186	.0275	-.026
	-2.19	-.158	.0144	.006		8.41	.563	.0874	-.083		6.22	.281	.0438	-.040
	-1.10	-.083	.0104	.003							8.89	.370	.0660	-.053
	-.54	-.048	.0092	.003	1.30	-4.21	-.276	.0356	.041		10.36	.457	.0942	-.067
	.54	.020	.0086	.002		-2.10	-.143	.0212	.022		12.43	.539	.1277	-.079
	1.06	.052	.0091	.001		-2.05	-.076	.0172	.012					
	2.15	.120	.0110	0		-.52	-.043	.0160	.007	1.90	-4.14	-.180	.0286	.025
	4.32	.258	.0222	.001		.50	.023	.0155	-.002		-2.07	-.094	.0192	.013
	6.50	.394	.0454	.001		1.04	.055	.0160	-.007		-1.03	-.050	.0166	.008
	8.67	.535	.0801	.003		2.09	.119	.0192	-.016		-.50	-.028	.0160	.005
	10.84	.669	.1248	.011		4.18	.246	.0316	-.035		.49	.016	.0156	-.001
	12.99	.793	.1778	.016		6.28	.372	.0583	-.054		1.02	.038	.0159	-.004
						8.37	.492	.0813	-.072		2.06	.081	.0180	-.011
0.90	-4.41	-.321	.0321	.011		10.46	.603	.1181	-.089		4.12	.164	.0265	-.022
	-2.81	-.187	.0152	.007							6.19	.248	.0407	-.034
	-1.11	-.090	.0105	.005	2.50	-4.18	-.238	.0326	.036		8.25	.327	.0607	-.046
	-.55	-.050	.0094	.003		-2.09	-.126	.0201	.020		10.31	.404	.0853	-.057
						-1.05	-.068	.0163	.011		12.37	.479	.1155	-.068
											14.43	.551	.1507	

TABLE II.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 WITH LEADING-EDGE CHORD EXTENSIONS AND AN ALL-
MOVABLE HORIZONTAL TAIL - Continued

(b) Characteristics for wing-body-tail combination; $\delta_n = +4^\circ$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.32	-0.229	0.0253	-0.027	0.016	4.0	0.90	0.56	0.092	0.0139	-0.054	0.020	4.1	1.50	1.02	0.084	0.0187	-0.043	-0.023	3.9
	-2.16	-.091	.0139	-.032	.017	4.0		1.10	.131	.0153	-.057	.019	4.0		2.06	.147	.0230	-.057	-.028	3.9
	-1.06	-.019	.0114	-.036	.017	4.0		2.20	.208	.0195	-.062	.018	4.0		4.14	.268	.0372	-.083	-.035	3.9
	-.49	.012	.0113	-.038	.018	4.0		4.39	.399	.0358	-.071	.016	4.0		6.21	.383	.0588	-.110	-.043	3.9
	.55	.080	.0121	-.042	.018	4.0		6.58	.503	.0633	-.074	.014	4.0		8.29	.496	.0880	-.137	-.051	3.8
	1.09	.115	.0133	-.045	.019	4.0		8.78	.666	.1020	-.087	.012	4.0		9.32	.550	.1052	-.150	-.054	3.8
	2.17	.184	.0167	-.049	.028	4.0		10.95	.815	.1589	-.111	.011	4.0							
	4.31	.313	.0288	-.055	.016	4.0								1.70	-4.16	-.196	.0312	.024	---	4.0
	6.46	.452	.0531	-.058	.012	4.0	1.20	-4.24	-.283	.0574	.024	-.005	4.0		-2.09	-.090	.0207	.001	-.008	4.0
	8.61	.581	.0881	-.059	.007	4.0		-2.13	-.127	.0298	-.008	-.011	4.0		-1.07	-.037	.0180	-.011	-.012	4.0
	10.77	.717	.1356	-.063	.003	4.0		-1.10	-.046	.0191	-.025	-.014	3.9		-.54	-.009	.0173	-.014	-.014	4.0
	12.92	.849	.1909	-.070	-.001	4.0		-.56	-.007	.0184	-.033	-.016	3.9		.49	.047	.0175	-.029	-.019	3.9
	15.05	.965	.2531	-.073	-.004	4.0		.55	.072	.0189	--	-.021	3.9		1.02	.075	.0184	-.035	-.021	3.9
	17.15	1.041	.3144	-.064	-.008	4.0		1.02	.112	.0200	-.058	-.024	3.9		2.06	.129	.0219	-.046	-.025	3.9
	18.19	1.066	.3446	-.059	-.014	4.0		2.07	.190	.0248	-.075	-.029	3.9		4.13	.234	.0343	-.069	-.033	3.9
								4.17	.346	.0416	-.109	-.038	3.9		6.19	.334	.0531	-.092	-.042	3.9
0.80	-4.39	-.254	.0296	-.030	.022	4.1		6.27	.500	.0686	-.142	-.047	3.8		8.26	.432	.0785	-.114	-.049	3.8
	-2.20	-.099	.0157	-.038	.023	4.1		7.33	.577	.0863	-.151	-.052	3.8		10.32	.507	.1105	-.136	-.057	3.8
	-1.08	-.020	.0123	-.043	.023	4.1									11.36	.573	.1290	-.146	-.061	3.8
	-.50	.015	.0122	-.046	.024	4.1	1.30	-4.22	-.262	.0374	.027	-.003	4.0							
	.56	.091	.0131	-.051	.024	4.1		-2.12	-.119	.0236	-.004	-.012	4.0	1.90	-4.14	-.171	.0301	.017	0	4.0
	1.10	.126	.0145	-.054	.024	4.1		-1.10	-.047	.0204	-.020	-.016	3.9		-2.08	-.080	.0213	-.001	-.006	4.0
	2.19	.203	.0186	-.059	.024	4.1		-.56	-.011	.0195	-.028	-.018	3.9		-1.06	-.032	.0193	-.011	-.010	4.0
	4.37	.346	.0334	-.066	.022	4.1		.49	.052	.0198	-.044	-.022	3.9		-.54	-.009	.0188	-.015	-.013	4.0
	6.54	.486	.0597	-.067	.018	4.0		1.02	.097	.0209	-.051	-.024	3.9		.49	.040	.0189	-.025	-.017	4.0
	8.73	.636	.0985	-.076	.009	4.0		2.06	.168	.0254	-.066	-.028	3.9		1.02	.064	.0196	-.030	-.019	3.9
	10.90	.778	.1504	-.089	-.001	4.0		4.16	.309	.0413	-.058	-.035	3.9		2.05	.110	.0224	-.039	-.024	3.9
	13.06	.914	.2123	-.101	-.010	4.0		6.24	.446	.0660	-.129	-.044	3.9		4.11	.201	.0329	-.057	-.032	3.9
								7.29	.510	.0809	-.142	-.048	3.8		6.17	.290	.0494	-.076	-.041	3.9
0.90	-4.41	-.263	.0312	-.030	.023	4.1									8.22	.376	.0718	-.095	-.050	3.8
	-2.22	-.107	.0168	-.039	.022	4.1	1.50	-4.18	-.226	.0333	.026	-.003	4.0		10.27	.458	.0996	-.113	-.058	3.8
	-1.09	-.023	.0133	-.045	.021	4.1		-2.10	-.104	.0214	0	-.021	4.0		12.33	.540	.1333	-.131	-.066	3.8
	-.50	.016	.0129	-.048	.020	4.1		-1.09	-.044	.0182	-.014	-.016	3.9		14.39	.619	.1729	-.146	-.072	3.8
								-.55	-.011	.0173	-.022	-.017	3.9							
								-.49	.053	.0175	-.036	-.021	3.9							

(c) Characteristics for wing-body-tail combination; $\delta_n = 0^\circ$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.30	-0.274	0.0080	0.007	0.003	0.2	0.90	-4.40	-0.327	0.0340	0.015	0.006	0.2	1.50	-0.51	-0.030	0.0159	0.003	0.001	0.2
	-2.15	-.140	.0149	.002	.003	0.2		-2.21	-.163	.0166	.005	.006	0.2		.50	.031	.0158	-.011	-.005	0.2
	-1.06	-.069	.0115	-.002	.002	0.2		-1.11	-.084	.0122	0	.007	0.2		1.03	.064	.0165	-.018	-.002	0.2
	-.55	-.036	.0106	-.005	.002	0.2		-.54	-.042	.0102	-.003	.008	0.2		2.07	.127	.0200	-.032	-.013	0.2
	.51	.030	.0104	-.009	.003	0.2		.52	.038	.0105	-.009	.009	0.2		4.16	.246	.0327	-.058	-.020	0.1
	1.05	.065	.0107	-.011	.003	0.2		1.06	.078	.0112	-.013	.008	0.2		6.23	.369	.0529	-.085	-.028	0.1
	2.13	.133	.0132	-.015	.004	0.2		2.18	.159	.0143	-.020	.006	0.2		8.31	.477	.0810	-.111	-.037	0.1
	4.26	.262	.0227	-.022	.005	0.2		4.38	.321	.0295	-.032	.011	0.2		10.37	.583	.1157	-.136	-.045	0
	6.41	.400	.0496	-.026	.007	0.2		6.58	.486	.0584	-.043	.011	0.2							
	8.57	.536	.0784	-.028	.009	0.2		8.77	.659	.1030	-.066	.012	0.2	1.70	-4.16	-.214	.0318	.041	.013	0.2
	9.63	.599	.0976	-.030	.010	0.2									-2.08	-.106	.0203	.018	.005	0.2
	10.71	.665	.1197	-.033	.011	0.2	1.20	-4.22	-.319	.0383	.058	.007	0.2		-1.04	-.051	.0171	.006	.001	0.2
	11.77	.731	.1445	-.036	.012	0.2		-2.11	-.161	.0219	.027	0	0.2		-.51	-.025	.0163	.001	-.001	0.2
	12.85	.800	.1730	-.041	.013	0.2		-1.06	-.079	.0177	.010	0	0.2		.50	.030	.0162	-.011	-.003	0.2
	13.90	.855	.1955	-.044	.013	0.2		-.52	-.039	.0164	.002	-.001	0.2		1.03	.058	.0169	-.017	-.005	0.2
	14.97	.911	.2320	-.045	.013	0.2		.50	.037	.0160	-.015	-.003	0.2		2.07	.112	.0199	-.029	-.010	0.2
	16.03	.959	.2626	-.042	.013	0.2		1.04	.079	.0167	-.024	-.005	0.2		4.14	.217	.0313	-.051	-.019	0.1
	17.06	.993	.2920	-.039	.012	0.2		2.09	.159	.0205	-.042	-.009	0.2		6.21	.318	.0491	-.073	-.027	0.1
	18.10	1.018	.3206	-.040	.009	0.2		4.19	.317	.0396	-.076	-.016	0.1		8.28	.415	.0736	-.095	-.035	0.1
								6.29	.471	.0612	-.110	-.025	0.1		10.35	.511	.1044	-.116	-.044	0
0.80	-4.36	-.303	.0339	.011	.004	0.2		8.39	.618	.0979	-.145	-.037	0.1		11.38	.562	.1226	-.127	-.048	0
	-2.18	-.151	.0154	.003	.002	0.2														
	-1.10	-.073	.0114	-.002	.003	0.2	1.30	-4.19	-.290	.0378	.057	.013	0.2	1.90	-4.13	-.186	.0303	.031	.014	0.3
	-.56	-.037	.0105	-.005	.003	0.2		-2.09	-.146	.0237	.026	.004	0.2		-2.07	-.092	.0204	.013	.006	0.2
	.52	.034	.0100	-.010	.004	0.2		-1.05	-.070	.0185	.010	0	0.2		-1.03	-.045	.0180	.004	.002	0.2
	1.07	.071	.0106	-.013	.005	0.2		-.52	-.035	.0171	-.002	-.002	0.2		-.50	-.023	.0173	0	--	0.2
	2.16	.143	.0132	-.018	.006	0.2		.51	.035	.0171	-.013	-.006	0.2		.48	.024	.0173	-.010	-.002	0.2
	4.33	.285	.0256	-.026	.008	0.2		1.04	.079	.0181	-.021	-.008	0.2		1.01	.048	.0178	-.014	-.005	0.2
	6.50	.428	.0496	-.030	.010	0.2		2.08	.145	.0214	-.037	-.012	0.2		2.05	.095	.0201	-.023	-.009	0.2
	8.68	.588	.0890	-.042	.012	0.2		4.17	.284	.0354	-.068	-.020	0.1		4.12	.184	.0259	-.042	-.018	0.1
	9.76	.655	.1108	-.050	.013	0.2		6.25	.420	.0582	-.099	-.028	0.1		6.17	.272	.0448	-.060	-.027	0.1
	10.84	.722	.1344	-.055	.014	0.2		8.33	.553	.0906	-.129	-.037	0.1		8.22	.358	.0661	-.078	-.035	0.1
	11.92	.796	.1638	-.064	.016	0.2		9.37	.615	.1096	-.143	-.041	0.1		10.28	.440	.0928	-.096	-.043	0.1
	13.00	.865	.1948	-.073	.018	0.2									12.34	.522	.1259	-.112	-.051	0.1
	14.06	.944	.2258	-.064	.020	0.3	1.50	-4.17	-.249	.0344	.050	.013	0.3		14.40	.598	.1632	-.126	-.058	0
	15.13	.980	.2591	-.054	.020	0.3		-2.09	-.126	.0209	.023	.004	0.2							
	8.19	.554	.0793	-.036	.012	0.2		-1.05	-.061	.0170	.009	0	0.2							

TABLE II.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 WITH LEADING-EDGE CHORD EXTENSIONS AND AN ALL-
MOVABLE HORIZONTAL TAIL - Continued

(d) Characteristics for wing-body-tail combination; $\delta_n = -2°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.32	-0.300	0.0297	0.021	-0.001	-1.6	0.90	-1.11	-0.101	0.0119	0.016	0	-1.6	1.50	-1.05	-0.073	0.0176	0.018	0.007	-1.6
	-2.17	-.156	.0156	.016	0	-1.6		-.56	-.062	.0108	.012	-.001	-1.6		-.52	-.044	.0162	.011	.005	-1.6
	-1.09	-.093	.0115	.013	.001	-1.6		.54	.022	.0101	.006	-.001	-1.6		.50	.020	.0157	-.003	.001	-1.6
	-.54	-.060	.0105	.011	.001	-1.6		1.07	.056	.0105	.003	0	-1.6		1.03	.072	.0163	-.009	.001	-1.6
	.52	.010	.0098	.007	-.001	-1.6		2.18	.136	.0133	-.002	.002	-1.6		2.08	.114	.0195	-.023	-.003	-1.6
	1.06	.042	.0103	.006	-.001	-1.6		4.37	.294	.0273	-.012	.005	-1.6		4.15	.233	.0329	-.049	-.012	-1.6
	2.12	.109	.0122	.002	-.001	-1.6		6.57	.456	-.0547	-.022	.005	-1.6		6.23	.349	.0517	-.075	-.021	-1.7
	4.26	.240	.0212	-.006	0	-1.6		9.03	.626	.1001	-.047	.006	-1.6		8.30	.461	.0768	-.102	-.029	-1.7
	6.42	.380	.0430	-.009	0	-1.6		9.86	.698	.1217	-.052	.009	-1.6		10.37	.568	.1133	-.127	-.037	-1.7
	8.56	.512	.0732	-.010	.001	-1.6		10.96	.791	.1532	-.073	.014	-1.6		11.56	.649	.1365	-.141	-.042	-1.7
	9.64	.578	.0946	-.013	.002	-1.6														
	10.71	.641	.1159	-.015	.003	-1.6	1.20	-4.21	-.339	.0403	.073	.018	-1.5	1.70	-4.15	-.224	.0326	.049	.021	-1.5
	11.78	.705	.1398	-.018	.004	-1.6		-2.11	-.177	.0205	.041	.009	-1.6		-2.08	-.117	.0206	.026	.012	-1.6
	12.85	.776	.1681	-.023	.005	-1.6		-1.05	-.095	.0156	.023	.005	-1.6		-1.04	-.062	.0178	.014	.008	-1.6
	13.92	.833	.1967	-.026	.006	-1.6		-.53	-.056	.0141	.015	.004	-1.6		-.51	-.034	.0164	.009	.007	-1.6
	14.98	.887	.2258	-.026	.007	-1.6		.50	.025	.0163	-.002	0	-1.6		.49	.019	.0159	-.003	.002	-1.6
	16.04	.935	.2566	-.023	.008	-1.6		1.04	.062	.0142	-.009	0	-1.6		1.03	.047	.0165	-.009	0	-1.6
	17.09	.971	.2855	-.019	.009	-1.6		2.09	.139	.0190	-.026	-.002	-1.6		2.07	.100	.0192	-.020	-.002	-1.6
	18.12	.999	.3144	-.020	.010	-1.6		4.19	.298	.0349	-.061	-.007	-1.6		4.14	.201	.0299	-.041	-.011	-1.6
								6.28	.453	.0600	-.096	-.013	-1.6		6.21	.303	.0472	-.063	-.001	-1.7
0.80	-4.36	-.329	.0325	.028	0	-1.6		8.38	.611	.0933	-.131	-.023	-1.7		8.28	.401	.0710	-.085	-.029	-1.7
	-2.20	-.177	.0162	.021	.001	-1.6		8.99	.661	.1065	-.143	-.027	-1.7		10.34	.492	.1009	-.105	-.037	-1.7
	-1.11	-.096	.0116	.015	-.001	-1.6									12.41	.582	.1373	-.125	-.046	-1.7
	-.55	-.061	.0104	.013	-.001	-1.6	1.30	-4.19	-.310	.0401	.069	.019	-1.5							
	.53	.015	.0098	.007	0	-1.6		-2.10	-.163	.0240	.038	.012	-1.6	1.90	-4.13	-.193	.0309	.038	.021	-1.5
	1.09	.051	.0102	.005	0	-1.6		-1.05	-.088	.0194	.021	.008	-1.6		-2.07	-.100	.0209	.019	.012	-1.6
	2.15	.124	.0125	0	0	-1.6		-.52	-.052	.0181	.014	.006	-1.6		-1.03	-.052	.0182	.010	.008	-1.6
	4.33	.269	.0244	-.010	0	-1.6		.50	.022	.0171	-.002	.001	-1.6		-.50	-.029	.0174	.005	.006	-1.6
	6.51	.413	.0477	-.012	.001	-1.6		1.04	.055	.0176	-.009	0	-1.6		.49	.017	.0170	-.004	.002	-1.6
	8.68	.562	.0853	-.023	.003	-1.6		2.08	.127	.0212	-.024	-.008	-1.6		1.02	.041	.0174	-.010	0	-1.6
	9.76	.630	.1071	-.029	.004	-1.6		4.17	.267	.0349	-.055	-.011	-1.6		2.06	.087	.0195	-.017	-.003	-1.6
	10.85	.704	.1456	-.036	.006	-1.6		6.25	.403	.0573	-.087	-.019	-1.7		4.12	.176	.0287	-.034	-.013	-1.6
	11.94	.778	.1604	-.043	.009	-1.6		8.34	.537	.0892	-.115	-.028	-1.7		6.18	.263	.0435	-.052	-.022	-1.7
	13.01	.841	.1894	-.051	.012	-1.6		10.02	.639	.1209	-.140	-.034	-1.7		8.23	.349	.0647	-.069	-.031	-1.7
															10.29	.430	.0909	-.086	-.039	-1.7
0.90	3.52	-.354	-.0133	.035	.003	-1.6	1.50	-4.17	-.263	.0360	.060	.019	-1.5		12.35	.510	.1227	-.103	-.046	-1.8
	-2.22	-.188	.0171	.023	.001	-1.6		-2.09	-.140	.0218	.033	.011	-1.6		14.40	.587	.1602	-.118	-.052	-1.8

(e) Characteristics for wing-body-tail combination; $\delta_n = -4°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.32	-0.323	0.0384	0.043	-0.010	-3.8	0.90	-2.23	-0.220	0.0204	0.054	0	-3.8	1.30	4.17	0.251	0.0341	-0.036	0	-3.8
	-2.17	-.187	.0172	.037	-.009	-3.8		-1.12	-.134	.0142	.046	-.001	-3.8		6.26	.387	.0555	-.068	-.006	-3.8
	-1.10	-.118	.0127	.034	-.008	-3.8		-.57	-.093	.0126	.043	-.001	-3.8		8.34	.517	.0859	-.098	-.014	-3.9
	-.55	-.081	.0116	.032	-.008	-3.8		.49	-.013	.0114	.037	-.001	-3.8		10.19	.627	.1204	-.125	-.022	-3.9
	.47	-.015	.0104	.028	-.007	-3.8		1.08	.028	.0114	.031	-.004	-3.8							
	1.06	.017	.0106	.026	-.006	-3.8		2.20	.111	.0138	.024	-.004	-3.8	1.50	-4.16	-.274	.0373	.074	.030	-3.7
	2.13	.086	.0121	.022	-.004	-3.8		4.37	.269	.0267	.011	-.003	-3.8		-2.08	-.148	.0227	.046	.023	-3.7
	4.25	.215	.0202	.014	-.002	-3.8		6.57	.433	.0532	-.001	-.001	-3.8		-1.05	-.083	.0183	.031	.018	-3.7
	6.38	.350	.0398	.011	.001	-3.8		8.77	.600	.0947	-.021	0	-3.8		-.51	-.051	.0169	.024	.016	-3.7
	8.56	.483	.0716	.010	.001	-3.8		10.95	.758	.1484	-.047	.007	-3.8		.53	.013	.0163	.010	.012	-3.8
	10.68	.614	.1113	.005	-.002	-3.8									1.04	.041	.0168	.003	.010	-3.8
	12.82	.749	.1627	-.003	0	-3.8	1.20	-4.20	-.358	.0416	.094	.034	-3.7		2.09	.103	.0198	-.010	.006	-3.8
	14.94	.856	.2181	-.006	.003	-3.8		-2.09	-.197	.0244	.062	.024	-3.7		4.17	.220	.0313	-.035	0	-3.8
	17.04	.937	.2752	.001	.004	-3.8		-1.04	-.111	.0191	.044	.020	-3.7		6.25	.333	.0504	-.061	-.008	-3.8
	18.07	.963	.3022	.002	.005	-3.8		-.52	-.072	.0177	.036	.018	-3.7		8.32	.448	.0770	-.087	-.016	-3.9
								.54	.008	.0168	.019	.014	-3.8		10.39	.553	.1105	-.111	-.025	-3.9
0.80	-4.39	-.326	.0356	.054	-.014	-3.8		1.08	.049	.0174	.011	.011	-3.8		11.14	.591	.1245	-.120	-.028	-3.9
	-2.21	-.205	.0183	.046	-.013	-3.8		2.11	.122	.0204	-.006	.005	-3.8							
	-2.12	-.129	.0129	.041	-.011	-3.8		4.20	.277	.0340	-.040	-.001	-3.8	1.70	-4.14	-.234	.0344	.060	.031	-3.7
	-.77	-.090	.0117	.038	-.011	-3.8		6.30	.432	.0577	-.074	-.001	-3.8		-2.07	-.127	.0220	.037	.022	-3.7
	.48	-.016	.0105	.033	-.009	-3.8		8.40	.589	.0931	-.110	-.003	-3.8		-1.03	-.069	.0182	.024	.017	-3.7
	2.18	.097	.0126	.024	-.005	-3.8		8.98	.635	.1050	-.120	-.012	-3.8		-.50	-.042	.0171	.019	.015	-3.7
	1.07	.021	.0108	.030	-.007	-3.8									.53	.015	.0164	.006	.011	-3.8
	4.32	.240	.0232	.014	-.002	-3.8	1.30	-4.18	-.319	.0416	.086	.027	-3.7		1.03	.040	.0169	.001	.009	-3.8
	6.49	.381	.0451	.010	0	-3.8		-2.09	-.178	.0255	.057	.023	-3.7		2.08	.093	.0194	-.010	-.001	-3.8
	8.68	.536	.0821	0	.001	-3.8		-1.03	-.099	.0206	.039	.018	-3.7		4.15	.194	.0297	-.031	-.001	-3.8
	10.83	.672	.1272	-.013	-.001	-3.8		-.52	-.063	.0191	.031	.015	-3.7		6.22	.294	.0464	-.053	-.010	-3.8
	13.00	.810	.1832	-.029	.001	-3.8		.54	.011	.0181	.015	.012	-3.8		8.28	.392	.0696	-.074	-.018	-3.9
								1.07	.047	.0185	.008	.010	-3.8		10.35	.482	.0989	-.094	-.026	-3.9
0.90	-4.43	-.367	.0405	.067	.007	-3.8		2.09	.114	.0216	-.007	.007	-3.8		12.42	.560	.1365	-.114	-.035	-3.9

TABLE II.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 WITH LEADING-EDGE CHORD EXTENSIONS AND AN ALL-
MOVABLE HORIZONTAL TAIL - Continued

(f) Characteristics for wing-body-tail combination; $\delta_n = -8°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.34	-0.363	0.0410	0.070	0.009	-7.6	0.90	1.01	-0.032	0.0164	0.079	0.012	-7.8	1.50	1.07	0.091	0.0184	0.086	0.028	-7.7
	-2.22	-.231	.0240	.069	.004	-7.7		2.18	-.053	.0176	.073	.010	-7.8		2.13	.082	.0209	-.013	.023	-7.7
	-1.12	-.163	.0185	.067	0	-7.8		4.39	-.219	.0283	.061	.005	-7.8		4.17	.198	.0311	-.014	.014	-7.8
	-.59	-.132	.0169	.066	0	-7.8		6.59	-.386	.0532	.049	.001	-7.8		6.25	-.313	.0488	-.039	.005	-7.8
	.49	-.066	.0143	.064	-.004	-7.9		8.76	-.551	.0819	.029	.004	-7.8		8.32	.423	.0739	-.063	0	-7.8
	1.03	-.034	.0136	.062	-.005	-7.9		10.94	-.710	.1435	.002	.012	-7.8		10.39	.508	.1063	-.087	-.008	-7.8
	2.09	.033	.0139	.058	-.009	-8.0									12.25	.619	.1414	-.108	-.016	-7.9
	4.25	.167	.0200	.051	-.010	-8.0	1.20	-4.18	-.365	.0483	.125	.056	-7.6							
	6.40	.303	.0374	.046	-.009	-8.0		-2.08	-.259	.0295	.094	.047	-7.6	1.70	-4.13	-.253	.0384	.079	.047	-7.6
	8.53	.434	.0650	.044	-.007	-7.9		-1.03	-.148	.0237	.076	.043	-7.7		-2.06	-.143	.0249	.055	.038	-7.7
	10.65	.570	.1059	.038	-.006	-7.9		-.50	-.106	.0219	.068	.041	-7.7		-1.02	-.066	.0208	.043	.033	-7.7
	12.79	.702	.1544	.030	-.004	-7.9		.51	-.030	.0203	.053	.037	-7.7		-.50	-.060	.0194	.037	.031	-7.7
	14.90	.807	.2075	.026	-.002	-7.8		1.08	.010	.0203	.045	.035	-7.7		.50	-.004	.0182	.025	.027	-7.7
	17.00	.889	.2628	.034	-.001	-7.8		2.15	.089	.0226	.028	.029	-7.7		1.06	.023	.0184	.019	.024	-7.7
	18.05	.921	.2915	.035	0	-7.8		4.22	.242	.0346	-.007	.018	-7.7		2.12	.077	.0205	.008	.020	-7.7
								6.31	.393	.0567	-.038	.010	-7.8		4.15	.175	.0298	-.013	.011	-7.8
0.80	-4.40	-.397	.0453	.086	-.013	-7.8		8.41	.551	.0898	-.074	0	-7.8		6.22	.275	.0475	-.034	.002	-7.8
	-2.93	-.253	.0262	.082	-.016	-7.8		9.73	.654	.1175	-.095	-.002	-7.8		8.29	.370	.0676	-.054	-.004	-7.8
	-1.14	-.177	.0197	.079	-.017	-7.8									10.35	.462	.0961	-.074	-.012	-7.8
	-.59	-.141	.0176	.076	-.017	-7.8	1.30	-4.16	-.347	.0473	.112	.045	-7.7		12.42	.552	.1309	-.093	-.021	-7.9
	.44	-.070	.0152	.072	-.018	-7.8		-2.07	-.205	.0300	.083	.037	-7.7		13.50	.597	.1512	-.102	-.025	-7.9
	.99	-.035	.0146	.070	-.018	-7.8		-1.02	-.131	.0247	.067	.034	-7.7							
	2.13	.040	.0151	.065	-.018	-7.8		-.51	-.098	.0227	.059	.033	-7.7	1.90	-4.11	-.217	.0359	.060	.043	-7.7
	4.32	.187	.0234	.056	-.016	-7.8		.56	-.002	.0212	.044	.030	-7.7		-2.06	-.121	.0245	.042	.034	-7.7
	6.50	.329	.0430	.051	-.016	-7.8		1.08	.014	.0212	.037	.029	-7.7		-1.01	-.073	.0212	.033	.029	-7.7
	8.64	.477	.0745	.040	-.014	-7.8		2.14	.085	.0237	.022	.025	-7.7		-.49	-.050	.0200	.028	.026	-7.7
	10.81	.623	.1191	.026	-.011	-7.8		4.19	.222	.0345	-.009	.018	-7.7		.50	-.002	.0192	.020	.022	-7.7
	12.96	.756	.1735	.008	-.005	-7.8		6.27	.355	.0541	-.039	.010	-7.8		1.05	.020	.0194	.015	.019	-7.7
								8.42	.488	.0832	-.069	.002	-7.8		2.10	.067	.0212	.006	.015	-7.8
0.90	-4.45	-.431	.0506	.098	-.015	-7.8		10.52	.609	.1205	-.095	.004	-7.8		4.13	.151	.0290	-.011	.007	-7.8
	-2.24	-.287	.0287	.091	-.011	-7.8									6.18	.238	.0429	-.027	-.002	-7.8
	-1.14	-.187	.0219	.088	-.014	-7.8	1.50	-4.14	-.301	.0428	.100	.043	-7.7		8.24	.321	.0625	-.043	-.012	-7.8
	-.59	-.146	.0196	.086	-.013	-7.8		-2.06	-.176	.0268	.071	.038	-7.7		10.29	.402	.0873	-.059	-.019	-7.9
	.45	-.071	.0169	.081	-.010	-7.8		-1.02	-.109	.0214	.055	.034	-7.7		12.35	.480	.1175	-.071	-.026	-7.9
								-.50	-.077	.0197	.048	.033	-7.7		14.40	.559	.1535	-.084	-.032	-7.9
								.50	-.012	.0183	.033	.030	-7.7							

(g) Characteristics for wing-body-tail combination; $\delta_n = -12°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.33	-0.362	0.0477	0.075	0.030	-11.7	0.90	1.07	-0.035	0.0295	0.087	0.028	-11.7	1.50	0.51	-0.037	-0.0260	0.058	0.043	-11.6
	-2.19	-.233	.0311	.076	.027	-11.8		2.14	.026	.0237	.076	.016	-11.8		1.07	-.005	.0258	.051	.042	-11.7
	-1.11	-.168	.0263	.076	.027	-11.8		4.36	.187	.0333	.067	.015	-11.8		2.14	.058	.0274	.037	.039	-11.7
	-.59	-.138	.0244	.076	.027	-11.8		6.56	-.350	.0564	.077	.011	-11.8		4.19	.173	.0356	.010	.033	-11.7
	.47	-.077	.0219	.076	.025	-11.8		8.75	-.508	.0926	.062	.007	-11.8		6.27	.288	.0518	-.017	.023	-11.7
	1.03	-.049	.0215	.077	.024	-11.8		10.89	.659	.1424	.041	.025	-11.7		8.34	.399	.0755	-.041	.014	-11.8
	2.06	.015	.0210	.076	.021	-11.8									10.41	.503	.1064	-.065	.006	-11.8
	4.25	.139	.0253	.074	.014	-11.8	1.20	-4.17	-.406	.0586	.150	.079	-11.5							
	6.39	.273	.0404	.073	.007	-11.8		-2.06	-.253	.0391	.122	.072	-11.6	1.70	-4.12	-.275	.0475	.101	.060	-11.6
	8.53	.399	.0664	.075	.002	-11.8		-1.01	-.173	.0329	.106	.068	-11.6		-2.05	-.165	.0325	.076	.055	-11.6
	10.67	.530	.1084	.072	0	-11.8		-.48	-.136	.0308	.098	.066	-11.6		-1.01	-.108	.0277	.063	.050	-11.6
	12.87	.656	.1486	.066	-.006	-11.8		.51	-.060	.0286	.083	.062	-11.6		-.49	-.081	.0261	.057	.048	-11.6
	14.89	.763	.2017	.061	-.008	-11.8		1.05	-.020	.0283	.075	.059	-11.6		.50	-.026	.0244	.045	.043	-11.7
	17.00	.843	.2544	.069	-.009	-11.8		2.17	.061	.0299	.058	.058	-11.6		1.06	.001	.0243	.038	.040	-11.7
	18.02	.866	.2781	.071	-.009	-11.8		4.27	.215	.0404	.024	.044	-11.7		2.13	.077	.0257	.027	.035	-11.7
								6.34	.364	.0607	-.007	.035	-11.7		4.17	.156	.0337	.005	.025	-11.7
0.80	-4.39	-.369	.0484	.070	.029	-11.7		8.44	.516	.0921	-.039	.024	-11.7		6.24	.256	.0486	-.016	.016	-11.7
	-2.21	-.231	.0307	.071	.029	-11.7		9.49	.601	.1131	-.057	.020	-11.7		8.31	.351	.0698	-.035	.007	-11.8
	-1.12	-.160	.0252	.071	.028	-11.7									10.37	.441	.0969	-.054	.001	-11.8
	-.58	-.126	.0234	.071	.028	-11.7	1.30	-4.15	-.366	.0552	.135	.065	-11.6		12.44	.531	.1306	-.073	-.007	-11.8
	.45	-.063	.0215	.072	.026	-11.7		-2.06	-.227	.0385	.106	.056	-11.6							
	1.00	-.030	.0205	.071	.025	-11.7		-1.01	-.152	.0326	.091	.053	-11.6	1.90	-4.10	-.234	.0426	.078	.057	-11.6
	2.14	.039	.0213	.071	.023	-11.7		-.48	-.118	.0309	.084	.051	-11.6		-2.04	-.139	.0323	.058	.047	-11.7
	4.33	.176	.0269	.069	.019	-11.8		.57	-.048	.0288	.070	.047	-11.7		-1.01	-.090	.0263	.048	.042	-11.7
	6.50	.311	.0477	.071	.012	-11.8		1.11	-.012	.0286	.063	.045	-11.7		-.50	-.067	.0249	.041	.039	-11.7
	8.67	.453	.0783	.066	.003	-11.8		2.18	.060	.0304	.048	.040	-11.7		.49	-.020	.0235	.033	.034	-11.7
	10.83	.583	.1191	.057	-.005	-11.8		4.24	.193	.0396	.018	.034	-11.7		1.04	.002	.0236	.031	.032	-11.7
	12.95	.706	.1672	.047	-.018	-11.8		6.29	.328	.0578	-.010	.029	-11.7		2.09	.050	.0249	.022	.027	-11.7
	15.08	.823	.2253	.028	-.015	-11.8		8.38	.476	.0850	-.039	.023	-11.7		4.13	.136	.0322	.005	.018	-11.7
								10.49	.576	.1213	-.066	.014	-11.8		6.19	.222	.0453	-.011	.009	-11.8
0.90	-4.41	-.406	.0531	.088	.035	-11.7									8.24	.306	.0643	-.027	-.001	-11.8
	-2.23	-.247	.0322	.080	.032	-11.7	1.50	-4.14	-.317	.0518	.118	.073	-11.6		10.29	.384	.0879	-.042	-.005	-11.8
	-1.13	-.167	.0259	.077	.031	-11.7		-2.05	-.197	.0355	.094	.049	-11.6		12.35	.462	.1174	-.055	-.014	-11.9
	-.58	-.130	.0236	.076	.030	-11.7		-1.01	-.132	.0300	.080	.048	-11.6		14.40	.541	.1518	-.070	-.021	-11.9
	.53	-.072	.0228	.087	.030	-11.7		-.49	-.101	.0281	.073	.047	-11.6		16.46	.614	.1983	-.083	-.027	-11.9

TABLE II.- AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 WITH LEADING-EDGE CHORD EXTENSIONS AND AN ALL-
MOVABLE HORIZONTAL TAIL - Continued

(h) Characteristics for wing-body-tail combination; $\delta_n = -16°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.32	-0.343	0.0505	0.065	0.030	-15.6	0.90	2.19	0.060	0.0265	0.071	0.035	-15.6	1.50	1.03	-0.031	0.0326	0.072	0.056	-15.5
	-2.18	-.212	.0344	.065	.030	-15.6		4.39	.214	.0359	.066	.034	-15.6		2.14	.033	.0340	.059	.054	-15.5
	-1.10	-.147	.0297	.065	.030	-15.6		6.59	.372	.0634	.060	.033	-15.6		4.23	.152	.0418	.033	.050	-15.5
	-.57	-.117	.0283	.065	.030	-15.6		8.79	.525	.1004	.090	.032	-15.6		6.27	.267	.0564	.006	.040	-15.5
	.44	-.058	.0266	.066	.030	-15.6		10.92	.641	.1490	.055	.022	-15.6		8.34	.377	.0788	-.019	.030	-15.6
	.96	-.029	.0259	.066	.030	-15.6	1.20	-4.15	-.421	.0694	.165	.098	-15.4		10.41	.481	.1081	-.042	.021	-15.6
	2.10	.031	.0262	.067	.031	-15.6		-2.05	-.273	.0489	.139	.092	-15.4		12.48	.582	.1449	-.064	.014	-15.7
	4.25	.146	.0321	.073	.032	-15.6		-1.00	-.195	.0421	.126	.089	-15.4	1.70	-4.11	-.292	.0565	.117	.064	-15.5
	6.40	.267	.0483	.080	.028	-15.7		-.48	-.158	.0398	.119	.088	-15.4		-2.04	-.186	.0409	.096	.065	-15.5
	8.52	.388	.0724	.084	.024	-15.7		.51	-.085	.0371	.105	.085	-15.4		-1.00	-.129	.0351	.082	.065	-15.5
	10.66	.515	.1079	.085	.019	-15.7		1.05	-.048	.0367	.099	.083	-15.4		-.48	-.102	.0331	.076	.064	-15.5
	12.80	.635	.1525	.083	.013	-15.7		2.16	.033	.0376	.082	.081	-15.4		.50	-.046	.0324	.063	.061	-15.5
	14.93	.736	.2022	.084	.008	-15.7		4.26	.186	.0468	.090	.072	-15.5		1.03	-.019	.0305	.077	.059	-15.5
	17.02	.806	.2517	.098	.005	-15.7		6.34	.337	.0696	.059	.047	-15.5		2.13	.037	.0313	.045	.042	-15.6
	18.04	.824	.2730	.104	0	-15.7		8.44	.491	.0959	-.013	.047	-15.5		4.21	.139	.0383	.024	.042	-15.6
0.80	-4.39	-.355	.0529	.071	.031	-15.6		10.56	.636	.1378	-.030	.043	-15.6		6.25	.236	.0518	.008	.031	-15.6
	-2.21	-.226	.0354	.070	.030	-15.6	1.30	-4.14	-.387	.0689	.193	.087	-15.4		8.31	.331	.0718	-.017	.021	-15.6
	-1.12	-.152	.0299	.069	.030	-15.6		-2.05	-.249	.0497	.127	.080	-15.4		10.38	.421	.0980	-.035	.012	-15.7
	-.77	-.119	.0282	.068	.029	-15.6		-1.00	-.177	.0433	.112	.077	-15.5		12.44	.508	.1300	-.053	.004	-15.7
	.46	-.052	.0263	.067	.029	-15.6		-.47	-.142	.0410	.106	.075	-15.5		14.51	.592	.1680	-.070	-.002	-15.7
	1.01	-.019	.0261	.067	.029	-15.6		.51	-.073	.0382	.091	.071	-15.5	1.90	-4.09	-.250	.0509	.093	.074	-15.5
	2.15	.050	.0267	.066	.029	-15.6		1.03	-.037	.0375	.084	.069	-15.5		-2.04	-.156	.0376	.074	.065	-15.5
	4.34	.185	.0350	.065	.030	-15.6		2.15	.035	.0386	.069	.063	-15.5		-1.01	-.108	.0332	.064	.058	-15.5
	6.51	.318	.0542	.069	.030	-15.6		4.24	.171	.0471	.040	.055	-15.5		-.50	-.085	.0317	.060	.056	-15.5
	8.69	.455	.0852	.067	.027	-15.6		6.29	.302	.0639	.013	.043	-15.6		.49	-.038	.0299	.051	.050	-15.5
	10.85	.580	.1254	.064	.024	-15.6		8.38	.429	.0900	-.014	.036	-15.6		1.02	-.015	.0298	.046	.047	-15.5
	12.96	.697	.1732	.057	.016	-15.7		10.45	.548	.1247	-.037	.034	-15.6		2.11	.036	.0307	.038	.042	-15.6
	15.08	.793	.2264	.051	-.002	-15.7		12.10	.633	.1567	-.054	.029	-15.6		4.17	.123	.0375	.021	.030	-15.6
0.90	-4.43	-.397	.0610	.084	.037	-15.6	1.50	-4.12	-.334	.0610	.134	.069	-15.5		6.20	.207	.0497	.004	.020	-15.6
	-2.23	-.246	.0388	.082	.039	-15.6		-2.04	-.217	.0431	.111	.063	-15.5		8.25	.290	.0678	-.011	.011	-15.7
	-1.12	-.163	.0315	.078	.037	-15.6		-1.00	-.154	.0377	.098	.061	-15.5		10.31	.370	.0912	-.025	.003	-15.7
	-.58	-.126	.0299	.076	.037	-15.6		-.48	-.122	.0375	.091	.060	-15.5		12.36	.447	.1203	-.038	-.001	-15.7
	.47	-.053	.0276	.074	.036	-15.6		.50	-.061	.0330	.078	.057	-15.5		14.42	.521	.1539	-.052	-.007	-15.7
	1.03	-.016	.0275	.072	.035	-15.6									16.47	.595	.1929	-.065	-.012	-15.7

(i) Characteristics for wing-body-tail combination; $\delta_n = -20°$

M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.32	-0.342	0.0554	0.067	0.029	-19.7	0.90	1.03	-0.021	0.0339	0.079	0.044	-19.7	1.50	1.04	-0.050	0.0431	0.090	0.072	-19.5
	-2.18	-.216	.0405	.068	.029	-19.7		2.18	.054	.0349	.075	.040	-19.7		2.14	.011	.0438	.077	.067	-19.6
	-1.11	-.150	.0356	.068	.028	-19.7		4.39	.207	.0452	.064	.038	-19.7		4.25	.129	.0508	.053	.063	-19.6
	-.57	-.120	.0341	.068	.028	-19.7		6.59	.370	.0702	.064	.038	-19.7		6.33	.244	.0647	.029	.062	-19.6
	.45	-.060	.0322	.068	.027	-19.7		8.79	.534	.1101	.048	.036	-19.7		8.37	.352	.0854	.004	.058	-19.6
	.99	-.032	.0320	.069	.027	-19.7		10.92	.665	.1555	.031	.037	-19.7		10.44	.456	.1137	-.019	.046	-19.6
	2.10	.028	.0327	.068	.027	-19.7	1.20	-2.04	-.284	.0619	.153	.106	-19.4		12.51	.494	.1494	-.041	.035	-19.7
	4.26	.149	.0371	.069	.028	-19.7		-.99	-.211	.0554	.141	.103	-19.4	1.70	-4.11	-.303	.0663	.130	.073	-19.5
	6.40	.274	.0535	.072	.030	-19.7		-.47	-.173	.0527	.134	.101	-19.4		-2.03	-.202	.0515	.118	.069	-19.5
	8.55	.399	.0799	.078	.031	-19.7		.52	-.102	.0486	.122	.098	-19.4		-.99	-.149	.0461	.108	.068	-19.6
	10.68	.515	.1145	.083	.030	-19.7		1.05	-.066	.0477	.115	.096	-19.4		-.47	-.122	.0440	.096	.068	-19.6
	12.82	.633	.1596	.085	.030	-19.7		2.16	.011	.0483	.100	.093	-19.4		.51	-.066	.0411	.083	.068	-19.6
	14.92	.710	.2047	.091	.027	-19.7		4.26	.162	.0567	.072	.067	-19.4		1.03	-.040	.0405	.077	.068	-19.6
	17.03	.789	.2573	.110	.024	-19.8		6.35	.315	.0759	.043	.063	-19.4		2.13	.015	.0408	.066	.066	-19.6
	18.06	.802	.2777	.119	.020	-19.8		8.45	.465	.1042	.013	.079	-19.4		4.22	.118	.0468	.044	.061	-19.6
0.80	-4.38	-.371	.0594	.076	.036	-19.7		10.57	.610	.1449	-.001	.075	-19.5		6.30	.218	.0597	.022	.078	-19.6
	-2.21	-.232	.0422	.075	.035	-19.7		11.33	.654	.1610	-.001	.073	-19.5		8.33	.311	.0784	.003	.042	-19.7
	-1.12	-.157	.0361	.072	.034	-19.7	1.30	-2.04	-.264	.0605	.142	.099	-19.4		10.40	.402	.1037	-.016	.030	-19.7
	-.57	-.122	.0344	.072	.034	-19.7		-1.00	-.194	.0535	.129	.092	-19.4		12.47	.489	.1352	-.033	.020	-19.7
	.46	-.057	.0326	.071	.032	-19.7		-.47	-.159	.0507	.123	.091	-19.4		14.54	.573	.1726	-.049	.012	-19.8
	1.01	-.024	.0320	.070	.031	-19.7		.51	-.091	.0477	.110	.089	-19.4	1.90	-4.09	-.267	.0524	.112	.073	-19.6
	2.15	.044	.0327	.069	.030	-19.7		1.04	-.057	.0468	.103	.087	-19.4		-2.03	-.172	.0476	.093	.061	-19.5
	4.33	.183	.0409	.067	.030	-19.7		2.07	.018	.0463	.086	.085	-19.4		-1.00	-.124	.0428	.082	.079	-19.5
	6.50	.317	.0599	.068	.030	-19.7		4.26	.150	.0551	.061	.078	-19.4		-.48	-.101	.0411	.078	.077	-19.5
	8.67	.455	.0908	.065	.030	-19.7		6.35	.284	.0716	.033	.070	-19.5		.50	-.054	.0388	.068	.071	-19.6
	10.83	.579	.1308	.060	.030	-19.7		8.40	.409	.0967	.008	.063	-19.5		1.02	-.031	.0382	.064	.068	-19.6
	12.94	.696	.1796	.057	.029	-19.7		10.48	.527	.1305	-.014	.054	-19.5		2.10	.016	.0385	.054	.063	-19.6
	15.06	.785	.2310	.054	.027	-19.7		12.56	.631	.1711	-.032	.046	-19.6		4.19	.103	.0443	.037	.053	-19.6
0.90	-4.42	-.403	.0653	.091	.045	-19.7	1.50	-4.12	-.346	.0715	.148	.081	-19.5		6.25	.189	.0562	.021	.044	-19.7
	-2.22	-.247	.0446	.086	.043	-19.7		-2.04	-.233	.0547	.127	.076	-19.5		8.27	.270	.0735	.008	.032	-19.7
	-1.12	-.168	.0382	.084	.044	-19.7		-.99	-.172	.0487	.116	.076	-19.5		10.33	.348	.0959	-.008	.022	-19.7
	-.58	-.132	.0362	.082	.044	-19.7		-.43	-.141	.0451	.110	.076	-19.5		12.39	.424	.1238	-.021	.013	-19.8
	.47	-.059	.0343	.081	.044	-19.7		.51	-.080	.0433	.097	.073	-19.5		14.45	.499	.1574	-.033	.005	-19.8
															16.51	.573	.1961	-.047	-.001	-19.8

TABLE II.– AERODYNAMIC CHARACTERISTICS OF A MODEL EMPLOYING A TRIANGULAR
WING OF ASPECT RATIO 3 WITH LEADING-EDGE CHORD EXTENSIONS AND AN ALL-
MOVABLE HORIZONTAL TAIL – Concluded

(j) Characteristics for wing-body-tail combination; $\delta_n = -24°$

| M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ	M	α	C_L	C_D	C_m	C_h	δ
0.60	-4.32	-0.343	0.0616	0.069	0.029	-23.7	0.90	-4.42	-0.409	0.0742	0.097	0.053	-23.7	1.50	2.14	-0.002	0.0550	0.092	0.066	-23.5
	-2.18	-.218	.0467	.070	.028	-23.7		-2.22	-.251	.0730	.091	.053	-23.7		4.24	.113	.0611	.067	.083	-23.7
	-1.11	-.151	.0413	.070	.028	-23.7		-1.12	-.175	.0467	.089	.054	-23.7		6.32	.225	.0747	.045	.075	-23.5
	-.27	-.121	.0399	.070	.028	-23.7		-.58	-.139	.0447	.088	.053	-23.7		8.36	.330	.0950	.023	.069	-23.6
	.45	-.061	.0380	.070	.028	-23.7		.46	-.068	.0421	.087	.053	-23.7		10.44	.432	.1224	.002	.083	-23.5
	.99	-.031	.0375	.069	.028	-23.7		1.02	-.031	.0413	.085	.053	-23.7		12.51	.532	.1565	-.019	.068	-23.6
	2.10	.029	.0375	.069	.028	-23.7		2.17	.046	.0424	.082	.053	-23.7	1.70	-4.10	-.313	.0774	.138	.064	-23.5
	4.26	.153	.0431	.069	.029	-23.7		4.38	.199	.0524	.077	.054	-23.7		-2.02	-.214	.0627	.123	.082	-23.5
	6.40	.279	.0595	.071	.029	-23.7		6.58	.361	.0765	.070	.054	-23.7		-.99	-.162	.0575	.114	.081	-23.5
	10.68	.526	.1211	.076	.032	-23.7		8.76	.525	.1153	.053	.046	-23.7		-.47	-.136	.0555	.109	.079	-23.5
	12.82	.645	.1663	.073	.035	-23.7		10.89	.690	.1578	.031	.040	-23.7		.51	-.084	.0530	.099	.077	-23.5
	14.93	.739	.2164	.081	.035	-23.7	1.30	-3.80	-.382	.0680	.170	.117	-23.4		1.03	-.057	.0524	.093	.076	-23.5
	17.02	.798	.2648	.102	.041	-23.7		-2.04	-.271	.0730	.152	.113	-23.4		2.12	-.004	.0525	.083	.073	-21.6
	18.05	.806	.2859	.116	.038	-23.7		-.99	-.205	.0697	.141	.111	-23.4		4.22	-.096	.0579	.063	.072	-23.6
0.80	-4.38	-.373	.0665	.080	.038	-23.7		-.46	-.170	.0642	.135	.111	-23.4		6.29	.198	.0695	.042	.073	-23.6
	-2.21	-.234	.0492	.079	.038	-23.7		.52	-.104	.0611	.123	.108	-23.4		8.33	.295	.0868	.019	.064	-23.6
	-1.12	-.162	.0433	.079	.038	-23.7		1.05	-.072	.0601	.117	.106	-23.5		10.39	.386	.1111	-.001	.054	-23.6
	-.58	-.128	.0414	.078	.038	-23.7		2.15	-.002	.0600	.104	.105	-23.5		12.45	.475	.1419	-.019	.044	-23.7
	.45	-.063	.0393	.077	.038	-23.7		4.27	.129	.0667	.077	.101	-23.5		14.52	.560	.1786	-.036	.034	-23.7
	1.01	-.030	.0388	.076	.037	-23.7		6.36	.263	.0825	.051	.096	-23.5		16.58	.642	.2209	-.053	.022	-23.7
	2.14	.039	.0390	.074	.037	-23.7		8.41	.386	.1068	.027	.090	-23.5	1.90	1.02	-.052	.0500	.085	.079	-23.5
	4.33	.176	.0465	.071	.037	-23.7		10.50	.501	.1366	.004	.070	-23.6		2.11	-.001	.0488	.072	.076	-23.6
	6.50	.311	.0652	.073	.036	-23.7		12.58	.606	.1788	-.014	.076	-23.5		4.15	.091	.0531	.053	.066	-23.6
	8.67	.451	.0962	.068	.036	-23.7	1.50	-4.11	-.374	.0868	.155	.101	-23.5		6.24	.178	.0641	.036	.055	-23.6
	10.83	.582	.1373	.060	.034	-23.7		-2.03	-.241	.0655	.136	.097	-23.5		8.26	.261	.0809	.018	.044	-23.7
	12.94	.700	.1857	.051	.032	-23.7		-.99	-.182	.0601	.126	.096	-23.5		10.31	.342	.1035	.003	.034	-23.7
	15.07	.799	.2403	.045	.034	-23.7		-.47	-.192	.0777	.121	.095	-23.5		12.36	.419	.1311	-.012	.026	-23.7
								.52	-.099	.0548	.110	.092	-23.5		14.41	.454	.1638	-.025	.020	-23.7
								1.04	-.065	.0543	.104	.091	-23.5		16.47	.571	.2095	-.037	.013	-23.8
															17.50	.607	.2234	-.043	.011	-23.8

Section A-A

3.0°

1.44

Dimensions in Inches

Figure 1.- Dimensional sketch of the model.
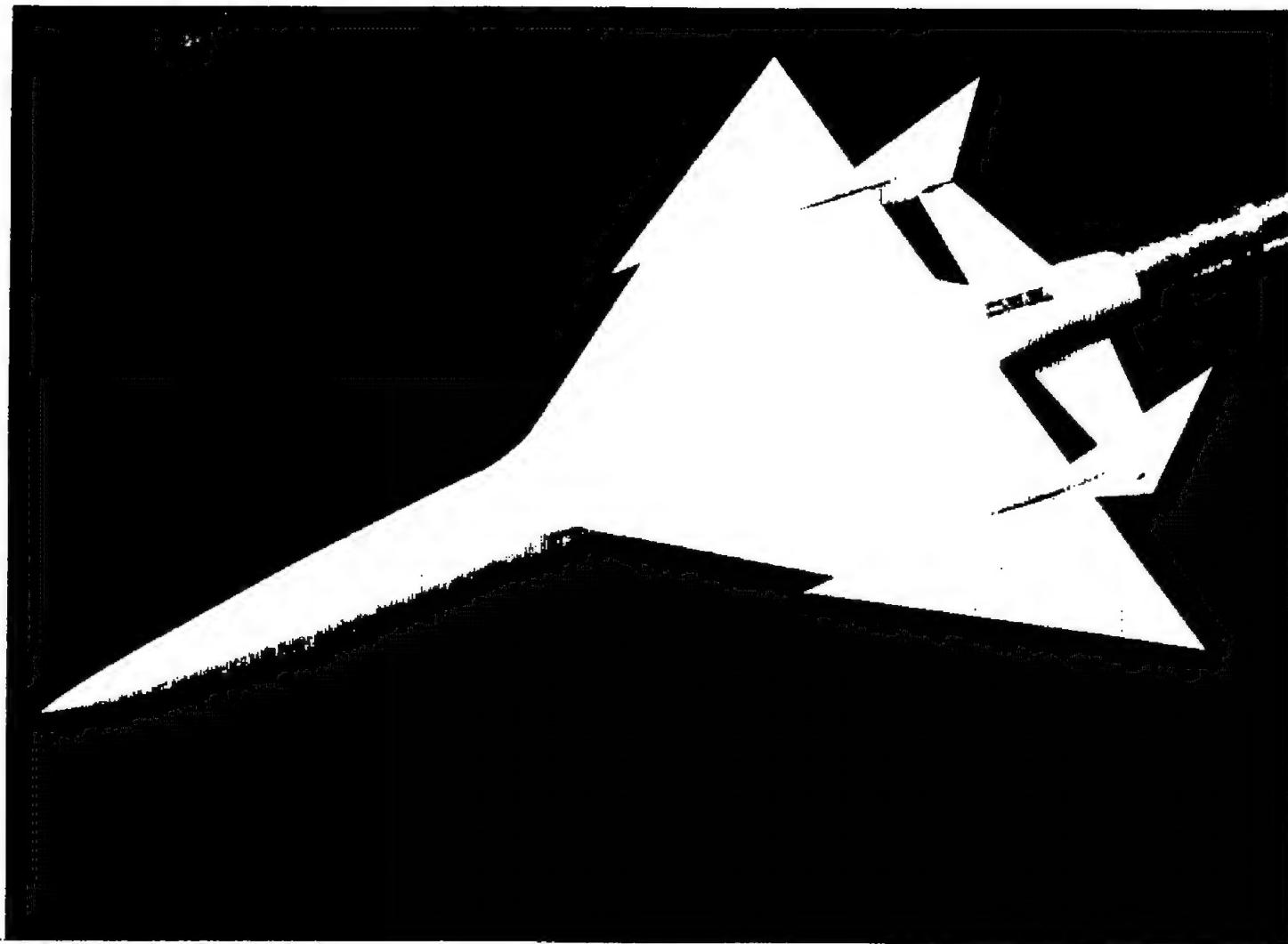
Figure 2.- Three-quarter front view of wing-body-tail combination with leading-edge chord extensions.

A-17938.1
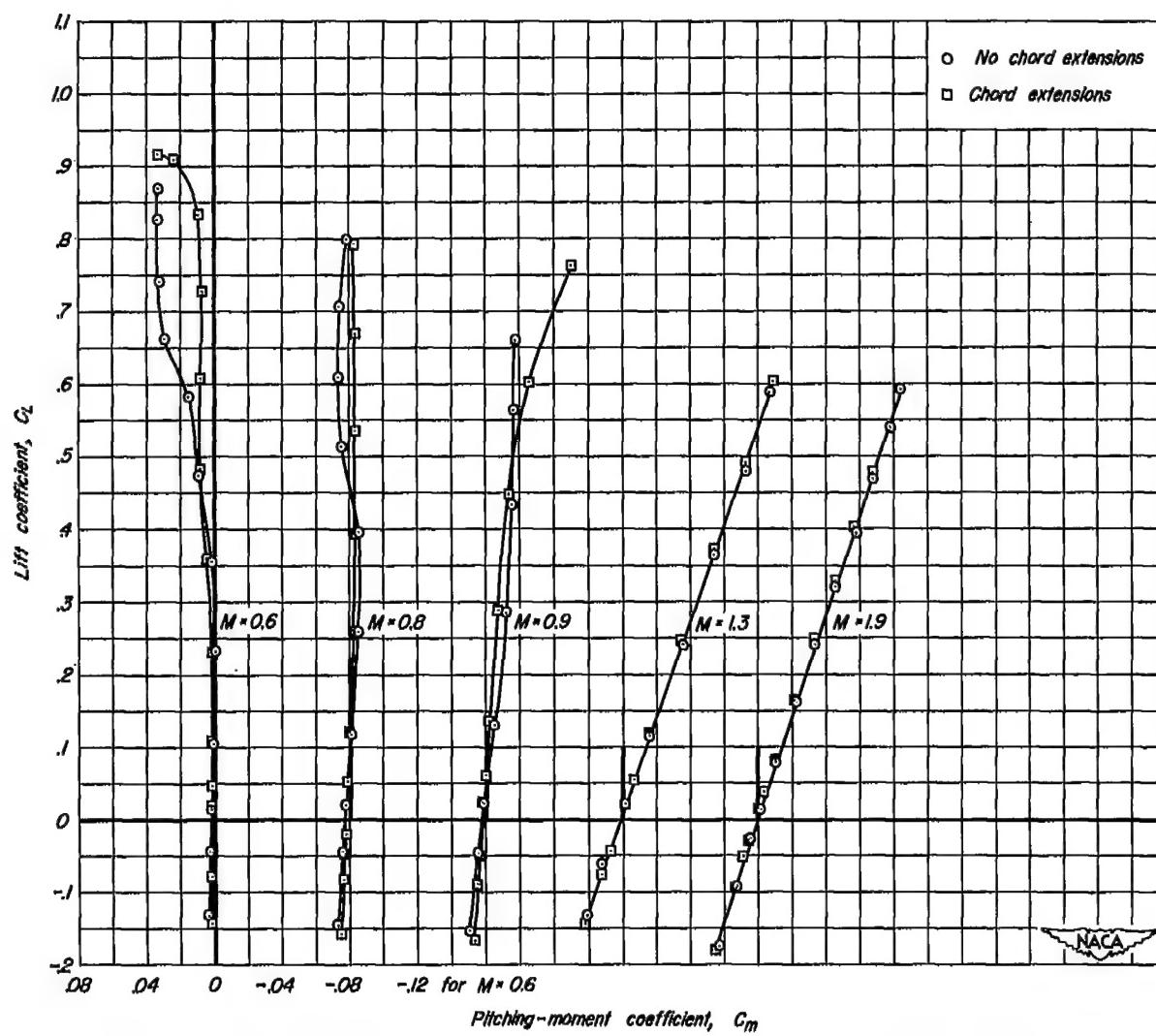
Figure 3.- Effect of leading-edge chord extensions on the variation of pitching-moment coefficient with lift coefficient for a wing-body combination employing a triangular wing of aspect ratio 3 (vertical fins attached to wing).
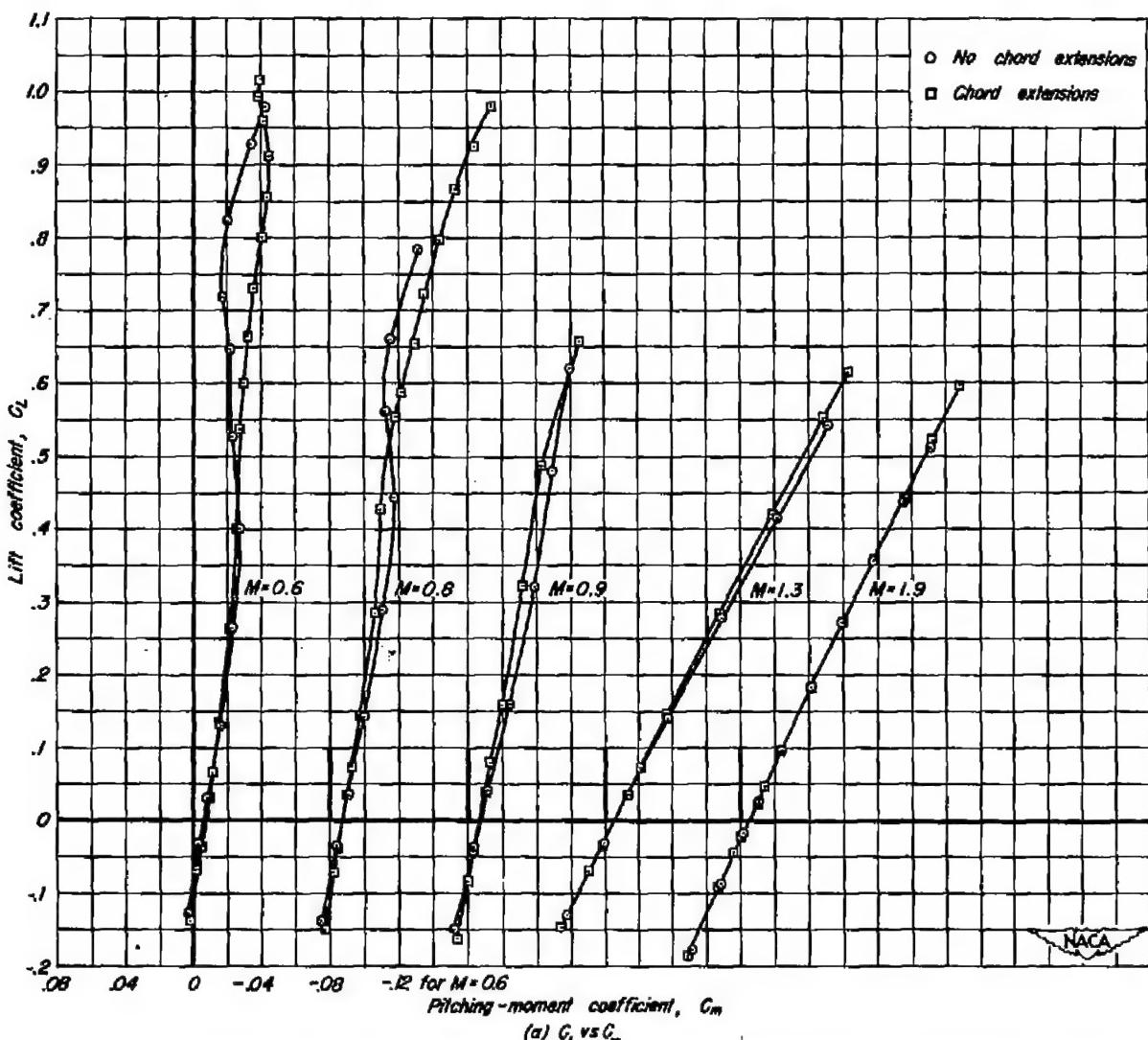
Figure 4.- Effect of leading-edge chord extensions on the aerodynamic characteristics of a wing-body-tail combination employing a triangular wing of aspect ratio 3 and an all-movable horizontal tail, $\delta_h = 0$.

Angle of attack, α, deg

(b) C_L vs α
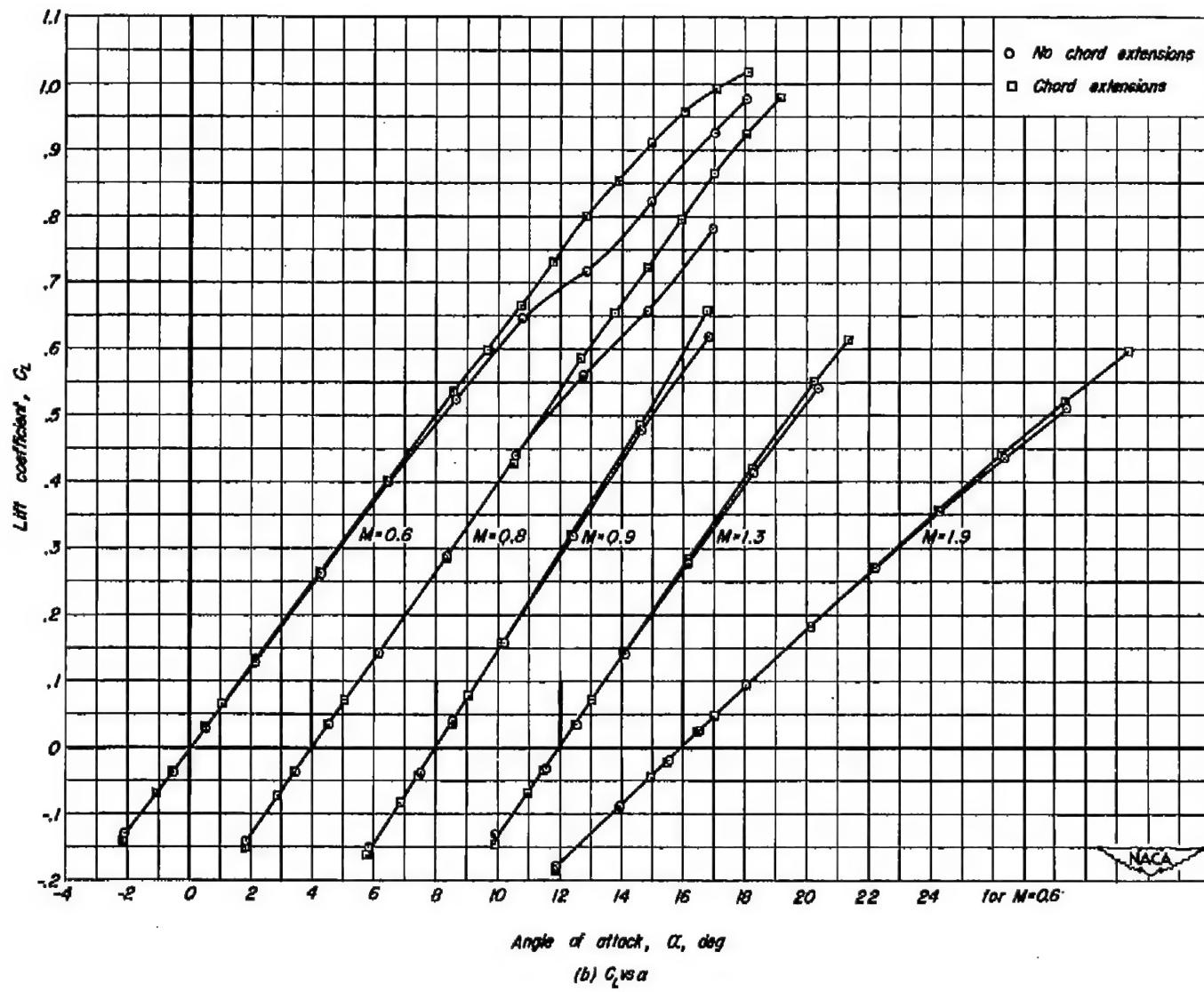
Figure 4.- Continued.

(c) C_L vs C_D
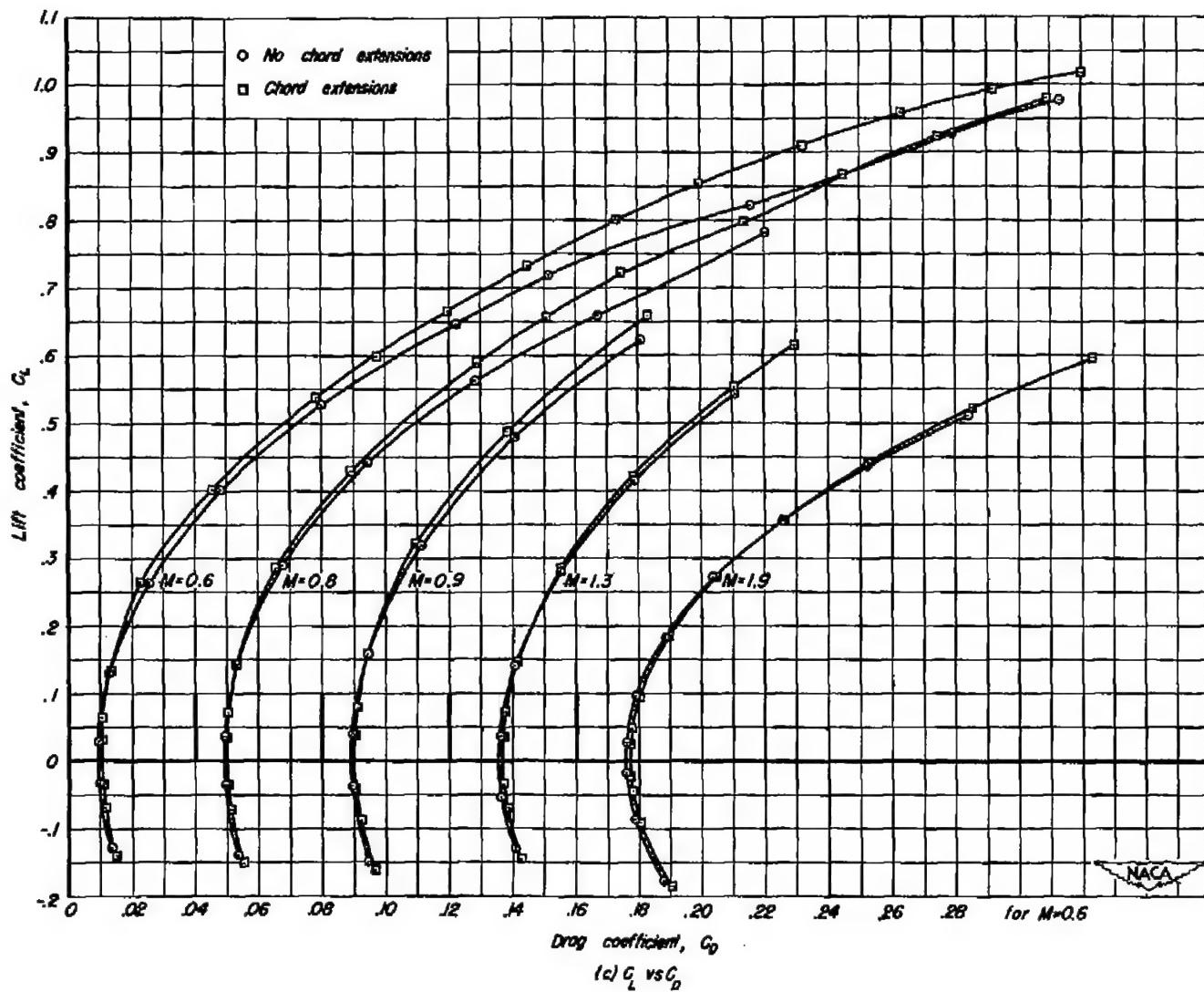
Figure 4.- Concluded.
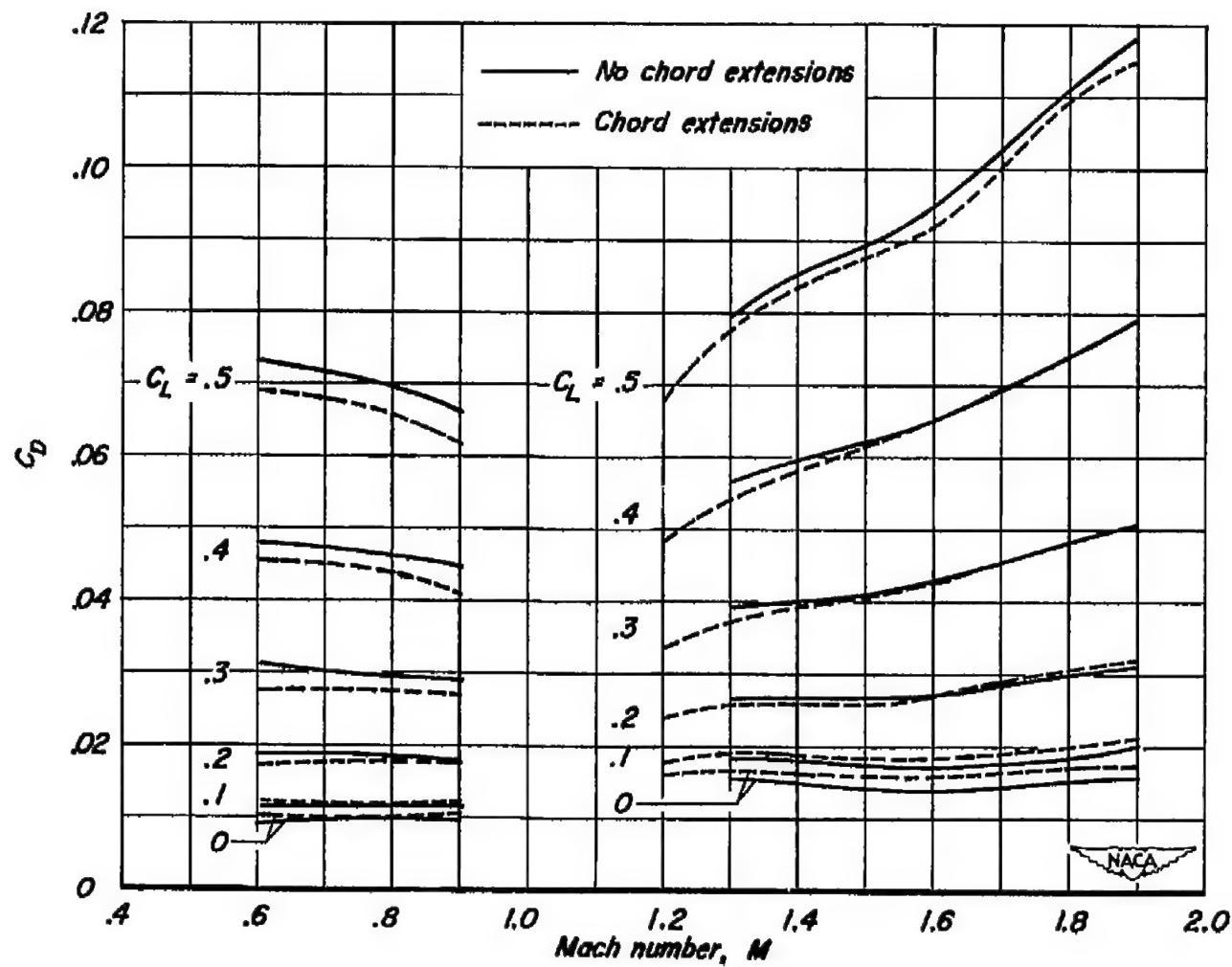
Figure 5.- Effect of leading-edge chord extensions on the variation of the drag coefficient with Mach number for the wing-body-tail combination, $\delta_n = 0$.
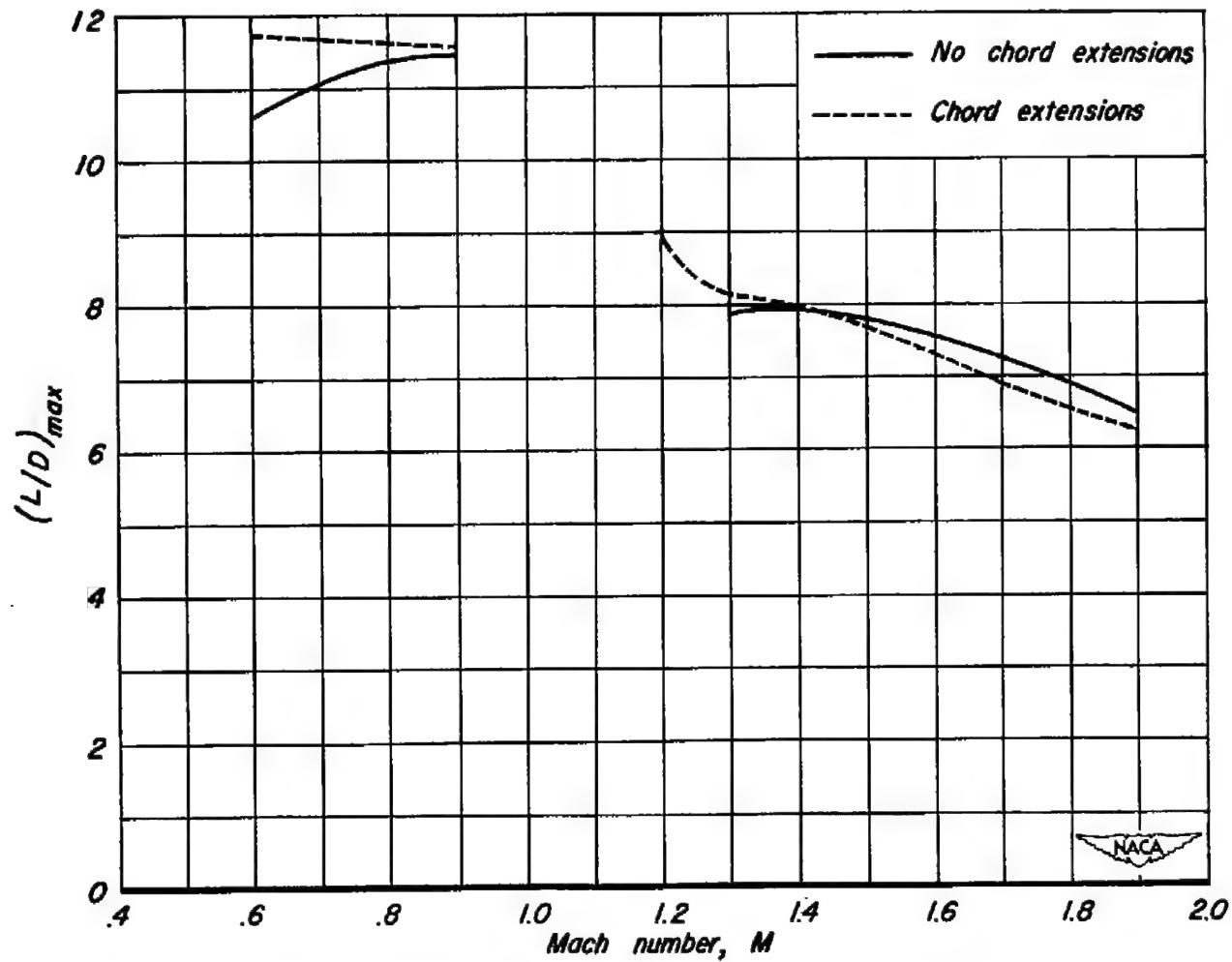
Figure 6.- Effect of leading-edge chord extensions on the variation of the maximum lift-drag ratio with Mach number for the wing-body-tail combination; $\delta_n = 0$.
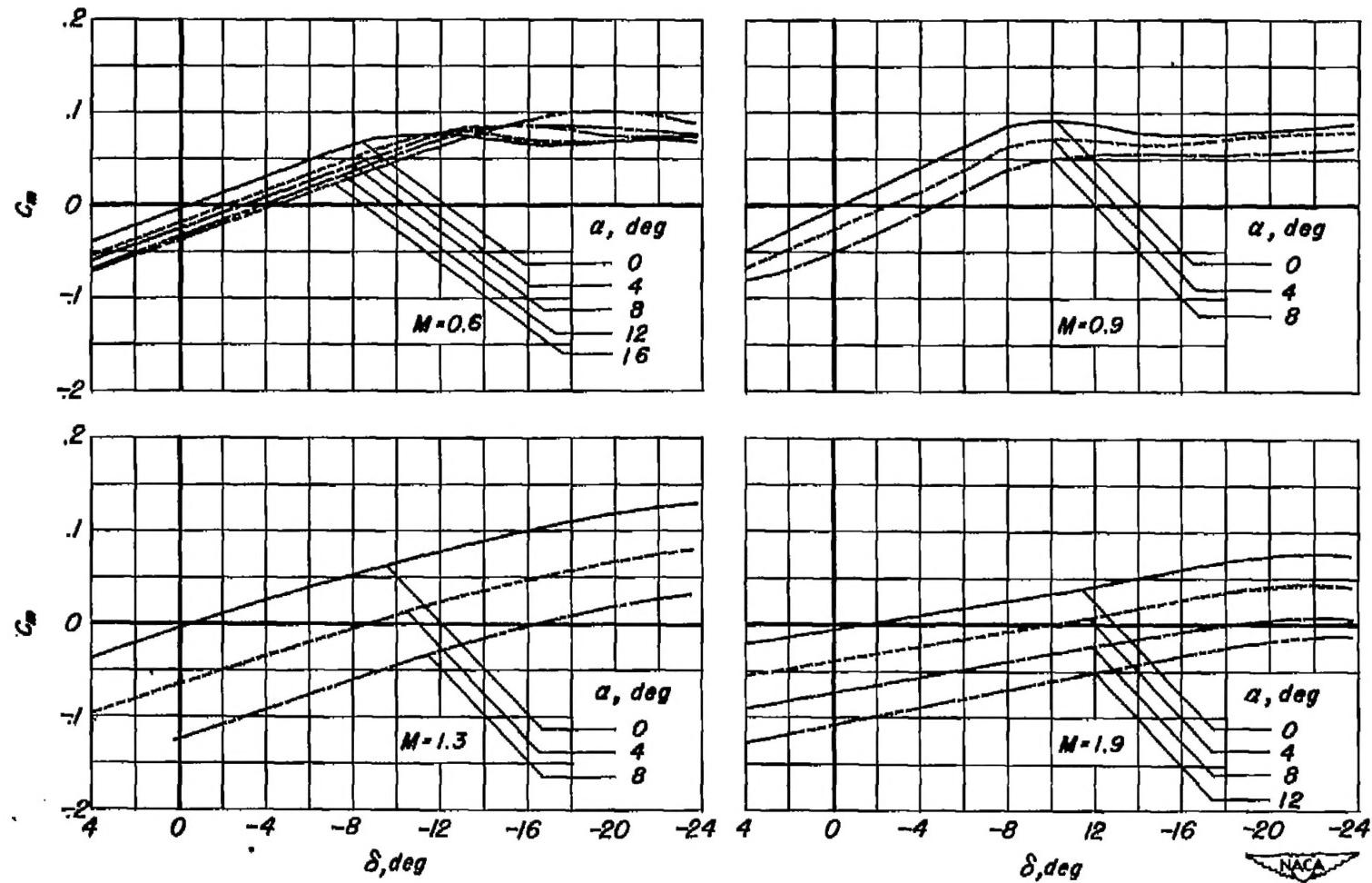
Figure 7.- Variation of the pitching-moment coefficient with horizontal-tail deflection for the wing-body-tail combination with leading-edge chord extensions.
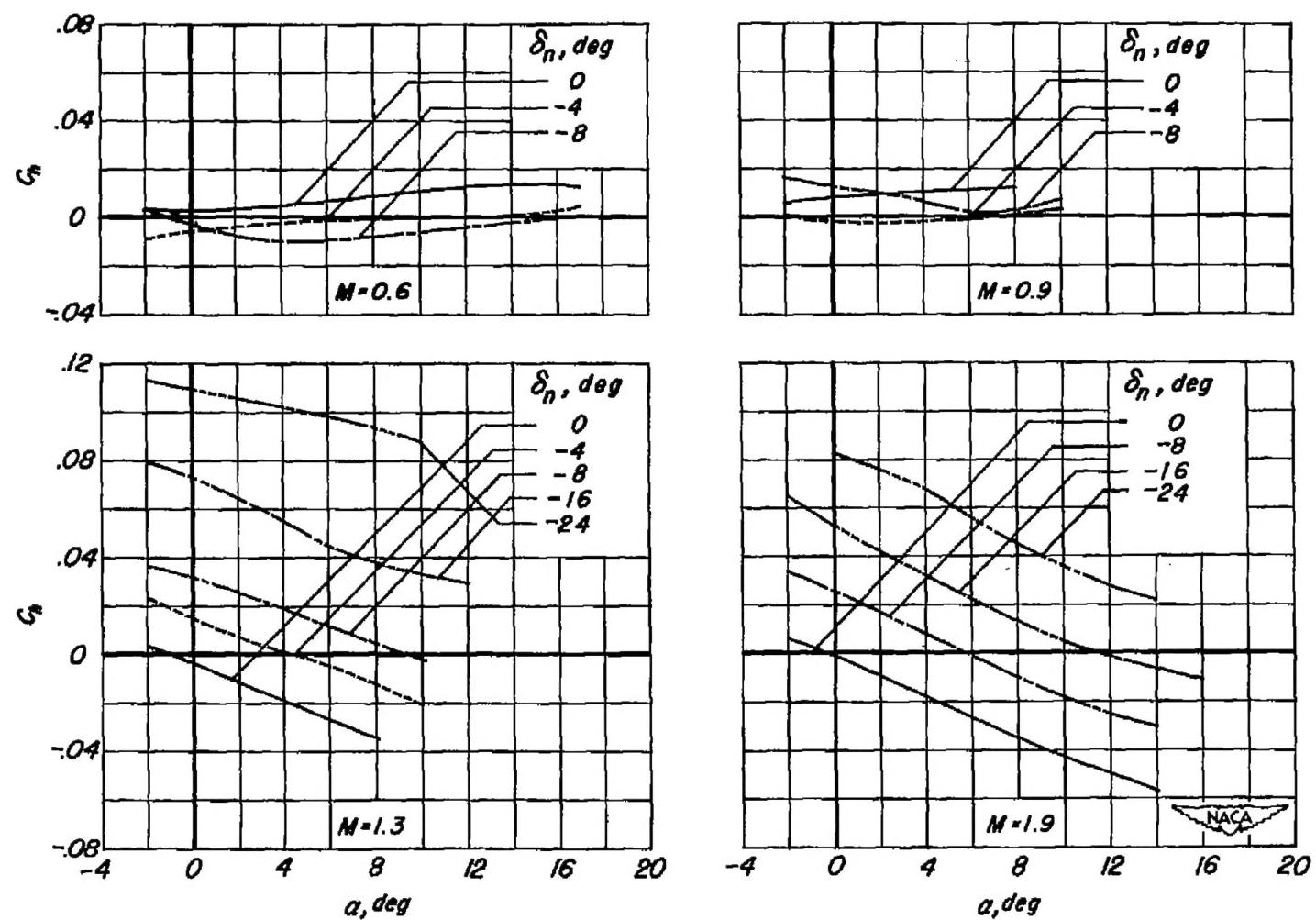
Figure 8.- Variation of the horizontal-tail hinge-moment coefficient with angle of attack for the wing-body-tail combination with leading-edge chord extensions.
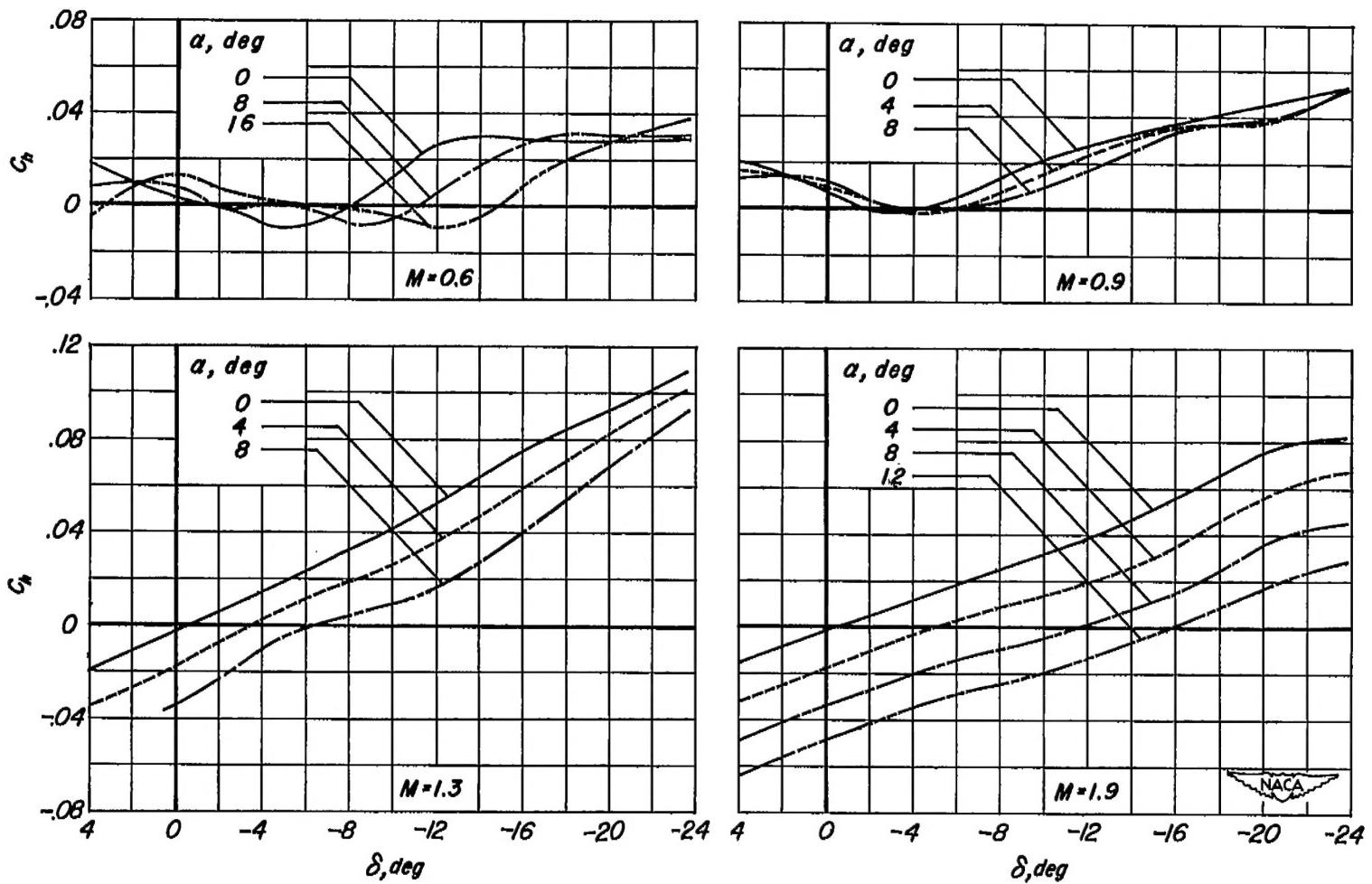
Figure 9.- Variations of the horizontal-tail hinge-moment coefficient with angle of deflection for the wing-body-tail combination with leading-edge chord extensions.